

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
ХАРКІВСЬКИЙ НАЦІОНАЛЬНИЙ ЕКОНОМІЧНИЙ УНІВЕРСИТЕТ
ІМЕНІ СЕМЕНА КУЗНЕЦЯ

ЕКОНОМІЧНА ТА СОЦІАЛЬНА
ГЕОГРАФІЯ СВІТУ

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до практичних завдань
для іноземних слухачів
підготовчого відділення

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Подано методичні рекомендації до самостійного вивчення всіх тем на-
вчальної дисципліни, тексти та завдання для перевірки набутих знань із пере-
ліком рекомендованої літератури.

Рекомендовано для слухачів підготовчого відділення.

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Вступ

Навчальна дисципліна "Економічна та соціальна географія світу" вивчає закономірності функціонування світогосподарської системи у взаємозв'язку з особливостями природного та культурного середовища. Вона покликана надати слухачам підготовчого відділення ХНЕУ ім. С. Кузнеця повне уявлення про теоретичні та прикладні питання з предмета. Вивчення цієї навчальної дисципліни сприяє формуванню світогляду, вибудовує сучасну географічну картину світу, допомагає набути практичних навичок щодо економічного становища та географічного положення України та інших країн світу, їх природно-ресурсного потенціалу, демографічної ситуації, розвитку та розміщення найбільш важливих галузей світового виробництва.

Ця дисципліна пропонує слухачам підготовчого відділення вигідні перспективи саморозвитку, оскільки її вивчення сприяє формуванню пізнавальної та соціальної активності слухачів, розкриттю їхнього творчого потенціалу, чіткого розуміння та засвоєння базової термінології.

Вивчення цієї навчальної дисципліни відбувається на лекціях і практичних заняттях. Під час практичних занять викладач організовує детальний розгляд студентами окремих теоретичних положень з предмета та формує вміння та навички їх практичного застосування шляхом індивідуального виконання слухачем відповідно сформульованих завдань. Навчальний матеріал згруповано за двома програмовими змістовими модулями та десятьма темами навчальної дисципліни та подано в наочній формі. Завдання значною мірою відповідають змісту робочої програми цієї навчальної дисципліни та покликані допомогти студентам набути відповідних компетентностей.

Ця робота містить методичні рекомендації до вивчення всіх тем з економічної та соціальної географії світу. Автори пропонують різноманітні завдання, що спрямовані на інтенсивне вивчення понятійно-категоріального апарату, опрацювання наукового тексту з економічної та соціальної географії країн світу, закріплення набутих знань та самовдосконалення. Головною метою комплексу завдань для практичних занять є сприяння ефективному оволодінню теоретичними знаннями та формуванню практичних навичок дослідження сучасного стану соціально-економічного розвитку країн світу. З цією метою у деяких темах додано завдання підвищеного рівня складності.

Content module 1

Introduction. The modern political map of the world.

The world's population

Topic 1. The introductory course

The study of this topic should begin with the definition of the subject, methods, goals and objectives of the science of geography. It is obligatory to specify the subdisciplines of geographical science, as well as what physical and economic geography studies. An important aspect of the study is the shape and size of the Earth, as well as the main landforms. The characteristics of the types of geographical maps, the concepts of geographical objects and their symbols on the maps deserve special attention. An important aspect is the study of the scale and degree grid, parallels and meridians, geographical coordinates. It is also worth paying attention to the geographical location of Ukraine. It is necessary to trace the historical component of the formation of geographical science and determine its role in human life and society.

Practical work 1

Task 1. Read the text.

Geography as a science

Geography is a science that studies the Earth, its surface and wildlife on it. Geography is divided into physical and economic geography.

Physical geography studies the relief of the Earth, mountains, plains, lowlands, hills, oceans, seas, lakes, rivers. To represent the earth's surface on a plane with the help of mathematical laws and special notations, geography uses maps. On a geographical map, we see continents, islands, peninsulas, different countries, cities.

Geographical maps are divided into physical, political, economic, climatic and other types. On the physical map, we see the relief – mountains, plains, lowlands, hills, natural resources. Climate maps tell about climate.

On the political map, we can see countries, cities, capitals, state borders. Economic maps tell about the country's economy, population, about the location and development of production. Geography plays an important role in human life, because it helps people to solve various economic, social problems in life.

Task 2. Answer the questions in writing.

1. What is geography?

2. What does it study?

3. What branches is geography divided into?

4. What does physical and economic geography study?

5. What geographical maps do you know? What do they tell about?

6. Why does geography play an important role in human life?

Task 3. Complete the following sentences.

1. Geography is a science that studies ...

2. Physical geography studies ...

3. Economic maps tell ...

4. Geography plays an important role in human life because ...

Task 4. Show the meridians, the equator, the poles, the parallels, the hemispheres on the map.

Practical work 2

Task 1. Read the text.

Parts of the World. Continents and oceans

The Earth's surface consists of oceans and land. The total land area of the planet Earth is 149 million km². The share of land is about 30 %.

The average depth of the oceans is about 3.8 km with the maximum of about 11 km (the Mariana Trench in the Pacific Ocean). The land forms six continents and islands. It rises above sea level by an average of 875 m. The highest altitude is Mount Chomolungma (Everest) in the Himalayas, 8848 m high.

Parts of the world are regions into which the Earth's land is divided according to a historically established tradition – taking into account political, demographic, biological realities. The division into parts of the world arose even in ancient times and did not take into account the geological history of the Earth. Therefore, parts of the world are not quite the same as continents.

The following parts of the world are usually distinguished: Europe, Asia, Africa, America, Australia, Antarctica. The islands of the southern part of the Pacific Ocean are sometimes isolated into a special part of the world – Oceania.

Continents

1. The largest continent is *Eurasia*. Eurasia includes such parts of the world as *Europe* and *Asia*. The Ural Mountains divide the mainland into European and Asian parts. Eurasia is located in the northern hemisphere. It is washed by the Arctic, Pacific, Atlantic and Indian oceans and their seas. In the north it's a cold continent, and in the south it is hot.

Statistics. Europe

The area of Europe is 10.8 million km², of which the area of the islands is about 730 thousand km². The highest absolute height is Mount Mont Blanc (4807 m); The lowest absolute height is the level of the Caspian Sea (-27 m); The largest island is Great Britain (229,885 km²); The largest lake is Ladoga (17,700 km²); The longest river is the Volga (3530 km).

Asia

The area of Asia is 44.58 million km².

The highest point in Asia and the whole world is Everest or Chomolungma – 8840 m.

In Asia, there is the deepest lake in the world – Baikal. Its maximum depth is 1620 m. The largest lake in the world – the Caspian Sea – is also located in Asia. Its area is about 390 square km.

The longest river in Asia and the continent of Eurasia is the Yangtze or Changjiang (in Chinese Yangtze means "blue river", Changjiang means "long river"). It is 5800 km (according to other sources 6300 km) long.

2. The second mainland is *Africa*. It is washed by the Atlantic Ocean in the west, by the Mediterranean Sea in the north, by the Red Sea in the northeast, and by the Indian Ocean in the east. Africa is the hottest continent on Earth.

Statistics. Africa

The area of African countries and adjacent islands is 30.25 million km², or 22.2 % of the area of all countries of the world. Kilimanjaro (5895 m) is the highest point of the mainland.

Africa has the longest river in the world – the Nile (6650 m), flowing from south to north. The largest lake is Victoria (68,000 km²).

In the north, there is the largest desert on Earth – the Sahara desert (8.6 million km²); in the south, the Namib desert (100,000 km²) is situated.

3. The third continent is *North America*. It is located in the western hemisphere. Central America and the Caribbean are classified as North America. The continent is washed by the Pacific Ocean in the west, the Atlantic Ocean in the east and by the Arctic Ocean in the north.

Large North Islands of America are Greenland, the Alexander Archipelago, the Aleutian Islands. In the north, it is a cold continent, and in the south, it is warm.

4. The fourth mainland is *South America*. South America is located in the western hemisphere. It is washed by the Atlantic Ocean in the east, the Pacific Ocean in the west. South America is a warm mainland.

America is a part of the world in the western hemisphere of the Earth, to which 2 continents belong – North America and South America, as well as the adjacent islands and Greenland. America is all the lands west of the Atlantic Ocean to the Pacific coast.

The total area of America is 44.485 million km².

5. The smallest mainland is *Australia*. It is located in the southern hemisphere. It is washed by the Pacific Ocean in the east, the Indian Ocean in the west. It is a hot and dry mainland.

6. Around the South Pole is *Antarctica*. This is the coldest mainland. It is washed by the waters of the Atlantic, Indian and Pacific Oceans.

Oceans

The continents divide the waters of the Earth into four oceans.

1. *The Pacific Ocean* is the largest and deepest of Earth's oceanic parts. It extends from the Arctic Ocean in the north to the Southern Ocean (or Antarctica) in the south and is bounded by the continents of Asia and Australia in the west and the Americas in the east.

2. The second largest ocean is *the Atlantic Ocean*. The Atlantic Ocean is located in the northern, southern and western hemispheres. It washes Europe and Africa in the east, North and South America in the west, and

Antarctica in the south. In the south, it is a very cold ocean, and at the equator, it is warm. Atlantic covers an area of 82 million square kilometers (32 million square miles). It has an average depth of 3,600 meters (11.81 feet). Its greatest depth is in the Puerto Rico Trench of 8,605 meters (28,231 feet).

3. Next is *the Indian Ocean*, which is located in the southern and eastern hemispheres. This is the warmest ocean. It washes Eurasia in the north, Africa in the west, Australia in the east, and Antarctica in the south.

4. *The Arctic Ocean* is the smallest and coldest one. It is located around the North Pole. The Arctic Ocean is covered in ice. The ocean washes Eurasia and North America. Of the five major oceans of the world, the Arctic Ocean ranks as the smallest and shallowest.

5. *The Southern Ocean* is the conventional name for the southern parts of the Atlantic, Indian and Pacific Oceans adjacent to the Antarctic continent.

Task 2. Answer the review questions.

1. How many continents are there on the Earth? Name them.

2. How many oceans are there? Name them.

3. Where is the border between Europe and Asia?

4. Which ocean has the largest area?

5. Which ocean has the smallest area?

6. Which ocean washes the fewest number of continents?

7. Which two oceans wash the greatest number of continents?

8. Which ocean has the shallowest average depth?

9. Which ocean has the greatest average depth?

10. Which oceans wash Europe?

11. Which oceans border on North America?

12. Which continent does the Southern Ocean surround?

Task 3. Show the continents and oceans on the map.

Task 4. Complete the following sentences using the information contained in the text.

1. _____ is the largest continent.

2. Eurasia is formed by _____ and _____.

3. South America is _____ the mainland.

4. Australia is _____ the mainland.

5. The Pacific is the _____ ocean.

6. The Indian Ocean is the _____ ocean.

7. The Arctic Ocean is the _____ ocean.

Task 5. Indicate the types of geographical maps and give examples of the use of maps.

Practical work 3

Task 1. Read the text.

Ukraine in the world. The geographical position of Ukraine

Ukraine is located within the East European Plain, in the zones of conifers and mixed forests, forest-steppe and steppe. The forest zone includes a variety of mixed and deciduous forests with white fir, pine, beech and oak; in the forest-steppe zone, the forests are mostly oak, and the steppe zone is characterized by grasses and band forest plantations.

The relief of most of the territory is flat: lowlands occupy 70 %, while highlands and mountains take up 25 % and 5 % respectively. The mountains are located in the south-west (the Ukrainian Carpathians; the highest point is Mount Hoverla, 2061 m above sea level) and in the southern part of the Crimean peninsula (the Crimean mountains; the highest point is Roman-Kosh, 1545 m). There are three main lowlands: the Black Sea lowland in the south, the Polissia lowland in the north, the Transcarpathian lowland in the west.

In most of Ukraine, the climate is temperate continental, except for the southern coast of Crimea, where the Mediterranean climate is typical. The degree of continentality is growing in the direction from west and northwest to east and southeast. As continentality rises, summers become hotter, and winters colder with less rainfall. The Crimean Mountains and the Carpathians are characterized by a mountain type of climate. Summer in all of Ukraine is warm and long; in the east and south it is hot and dry; in the west it is warm and humid. Winter is highly dependent on the region. Mild winters are observed in the south and west; the coldest winters are observed in the north-east of Ukraine.

The geographical position of Ukraine

The territory of Ukraine has a size of 1,316 km from west to east and 893 km from north to south; it lies between approximately 52°20' and 44°20' north latitude and 22°5' and 41°15' east longitude. The extreme northern point is the village of Hremiach, the Chernihiv region; the southern one is Cape Sarych (Crimea); the western one is the village of Solomonovo near the city of Chop, the Transcarpathian region; the eastern one is the village of Rannia Zoria of the Luhansk region. The geographical center of Ukraine is located in the village of Marianivka, the Cherkasy region. The total area of Ukraine is 603.7 thousand km², which is 5.7 % of Europe and 0.44 % of the world. Ukraine is the largest country in Europe, fully located in it.

The length of the sea border is 1 355 km (1 056.5 km along the Black Sea; 249.5 km along the Sea of Azov, and another 49 km along the Kerch Strait, which is part of it).

Ukraine has an official border with seven United Nations Member States (UN): Russia (1955 km by land, sea borders in the Sea of Azov and the Black Sea) in the east and north-east, Belarus (1084 km) in the north, Poland (542 km), Hungary (135 km), Slovakia (98 km) in the west, Moldova (1202 km) and Romania (608 km by land) in the south-west. The coastline is 2835 km long.

The geographical center of Europe, according to measurements taken in 1887 by the military department of Austria-Hungary, was located in the territory of modern Ukraine, near the city of Rakhiv, the Transcarpathian region.

Task 2. Answer the questions in writing.

1. What are the geographical names of the plains and mountains of Ukraine?

2. What are the geographical names of the plains and mountains of your country?

3. Name the countries Ukraine borders on. Where are the maritime borders of Ukraine?

4. Which countries does your country border on?

5. What are the largest rivers of Ukraine?

Task 3. Give definitions for the following terms.

1. The geographic location is _____

2. A plain is _____

Topic 2. The modern political map of the world

The study of this topic should begin with finding out the number and grouping of countries on various grounds. It is obligatory to specify the state system of the countries of the world and the forms of their administrative and territorial structure. The influence of international relations on the political map

of the world, the current stage of development of international relations and the modern political map of the world deserve special attention. Particular attention should be paid to the issue of the political and geographical position of Ukraine and the place of Ukraine on the political map of the world. The definition of the state system of Ukraine should be focused on and the administrative and territorial structure of Ukraine should be studied in detail.

Practical work 4

Task 1. Read the text, pay attention to phrases with new words.

Countries of the world. Types of countries. Government forms

On the world map, we see 230 countries and territories. Each country has a capital, a coat of arms, a flag, an anthem, a constitution. Countries of the world are divided into several types:

- according to the continent (European, Asian, American, African);
- depending on the population – large (China, India, USA), medium (Ukraine, Belarus, Egypt), small (Cuba, Belgium, Portugal);
- in terms of the size of the territory;
- depending on the geographical location (coastal, island – Japan, the Philippines; 40 countries have no access to the sea – these are Hungary, Bolivia, etc.);
- as to religion (Christian, Islamic, etc.);
- according to the level of economic development (developed and developing).

According to the form of government, the states of the world are divided into monarchies and republics.

A monarchy is a state whose head is the monarch. Distinguish between unlimited (absolute) monarchy and limited (constitutional) monarchy in which the power of the monarch is limited by parliament. Nowadays, there are states with a constitutional monarchy (the UK, Norway, Denmark, Sweden). In some countries, the head of state is simultaneously the religious head (the Vatican).

A republic is a form of government in which the head of state (president) is elected by the population or by a special electoral college. Legislative power is vested in parliament. Most modern states are republics.

A unitary state is a form of state structure in which the territory of a state does not include federal units (states, lands), but is subdivided into administrative and territorial units (regions, etc.).

A federation is a form of state structure in which the state is formed by federal units – members, subjects of the federation (lands, states). The federation has a unified constitution, unified bodies of state power, a single citizenship, a monetary unit, etc. As a rule, members of the federation have their own constitutions, legislative, executive and judicial bodies. Federations are the United States, India, Germany and others. The subjects of the federation, except for the republics within Russia, are the territories, regions, cities of federal significance (Moscow and St. Petersburg), autonomous regions and autonomous district.

Task 2. Fill in the table "Forms of government". Write down the names of the countries in the corresponding columns.

Forms of government				
Monarchy		Republic		
Limited	Unlimited	Presidential	Parliamentary	Mixed government

Task 3. Give definitions for the following terms.

1. Limited monarchy is _____

2. Unlimited monarchy is _____

3. A parliamentary republic is _____

4. A presidential republic is _____

5. Mixed government is _____

6. State and territorial government is _____

7. A unitary state is _____

8. A federation is _____

9. A confederation is _____

10. A political regime is _____

11. Democracy is _____

12. Authoritarianism is _____

13. Totalitarianism is _____

Task 4. Answer the questions in writing.

1. How many countries and territories are there the world?

2. Name the criteria according to which countries are divided into various types.

Task 5. Prepare a story about your country (what type of country it belongs to, what form of government prevails in your country).

Task 6. Write a story about the state symbols of your country.

Topic 3. The geography of the world's natural resources. Ecological problems. Interaction of society and nature

The study of this topic should begin with the definition of natural resources and their classification. It is mandatory to clarify the concept of resource security. An important aspect is the study of the world's natural resources: land, forest and water, as well as the resources of the oceans. The location of the main natural resources deserves special attention: fuel and energy, ore and non-ore mineral resources.

It is worth paying attention to the study of the interaction of nature and human society, as well as the problem of environmental pollution. The study of the issue of natural resources of Ukraine deserves special attention. It is

necessary to focus on the location of natural resources of Ukraine. It is necessary to study in detail the provision of Ukraine with the main types of natural resources.

Practical work 5

Task 1. Read the words that you will find in the text "Natural conditions, resources and their significance". Find the meaning of the words in a dictionary. Write down the words in alphabetical order.

resource	fuel	exhaustible
element	non-renewable	treatment
deposits	gaseous	recreation
mineral	raw materials	energy
exhausted	metal	industry
renewed	deposit	construction

Task 2. Read the text.

Natural conditions, resources and their significance

Nature, geographical (natural) environment play an important role in the life and development of human society. Nature in the broad sense of the word covers the entire material world. The geographical environment is a part of nature that is directly related to the life and activity of society, interacts with it. The constituent elements of a geographical (natural) environment are natural conditions and resources. Natural conditions are bodies and forces of nature, which at a given level of development of productive forces are essential for the life and work of society, but do not participate directly in material production (for example, topography, climate, its geographical location).

Natural resources are bodies and forces of nature, which at a given level of development of productive forces and knowledge can be used to meet the needs of human society.

They can be classified based on:

- the origin – mineral resources, biological resources (flora and fauna), land, climate, water resources;
- the method of use – in material production (in industry, agriculture and other industries), in the non-production sphere;

- the exhaustibility – exhaustible, including. renewable (biological, land, water, etc.) and non-renewable (mineral), practically inexhaustible (solar energy, underground heat, energy of flowing water).

On the Earth, natural resources are distributed unevenly. In different countries, the reserves of natural resources are different. This is due to the different conditions of their formation. Some states have all kinds of natural resources – these are the USA, China, Russia. Some countries have large deposits of one type of natural resource. But the country's wealth depends not only on natural resources but also on how people use it.

Land resources are the entire land area. These include arable land, meadows, pastures, forests, gardens, urban and rural areas.

Water resources are rivers, lakes, groundwaters, seas and oceans. People use only fresh water. Freshwater resources are distributed unevenly throughout the world. In the northern countries there is a lot of fresh water, but in the southern countries there is not so much. In large cities (Paris, Tokyo) there is not enough water. Here the population is constantly growing, and new industrial enterprises are being built. Groundwater is close to the surface of the earth. People use these underground waters in the economy.

Biological resources are plant and animal organisms. The most important type of plant resources is forest resources. Forests are a source of oxygen. They conserve groundwater and prevent soil destruction. Forests are used in industry and construction.

Recreational resources are elements of nature and objects that people use for recreation, tourism and treatment.

Task 3. In the notebook, answer the questions.

1. What are natural resources?

2. What types of natural resources do you know?

3. How are natural resources distributed on the Earth?

4. Why do different countries have different natural resources?

5. What countries have all kinds of natural resources?

Task 4. Complete the sentences using the information, contained in the text.

1. Natural resources are _____
2. Freshwater resources are distributed _____
3. _____ type of plant resources is forest resources.
4. Land resources are _____
5. _____ are elements of nature and objects that people use for recreation, _____

Task 5. Write an abstract of the text "Natural conditions, resources and their significance".

Task 6. Retell the text "Natural conditions, resources and their significance".

Topic 4. The geography of the world's population

The study of this topic should begin with the concept of population reproduction and getting acquainted with the types of population reproduction. It is obligatory to find out the ethnic, sexual, age and religious composition of the world's population. An important aspect is the location and density of the world's population and how urban and rural population is located. The issues of urbanization, population migration and demographic policy deserve special attention. Another important aspect is the study of the location and population density of Ukraine and population dynamics. The study of the issue of urban and rural population of Ukraine deserves special attention. It is necessary to study in detail the provision of Ukraine with labor resources of the country.

Practical work 6

Task 1. Read the text.

The distribution of the population in the world

The distribution of people on Earth depends on various factors, in particular on:

- natural conditions (climate, topography, water availability, soil fertility, moisture);
- historical factors;
- industrial development;
- geographical location.

Low population density is observed in areas with poor environmental conditions. Six regions of the world are characterized by high population density.

In 2011, 7 billion people were living on Earth. On the globe, the population is unevenly distributed. The average population density in the world is 46 people per square kilometre. There are countries where the population density is very small – these are Australia, Mongolia, Libya.

86 % of the world's population live in the eastern hemisphere, with 14 % inhabiting the western hemisphere. 90 % of the population live in the northern hemisphere, while only 10 % are settled in the southern hemisphere.

Two factors have a major influence on the size and distribution of people: the natural movement (reproduction) of the population and its migration (mechanical movement of the population).

The natural movement of the population is characterized by such indicators as the birth rate, mortality, natural growth, and average life expectancy of people. The ratio of these values reflects the reproduction mode. Thus, the reproduction (natural movement) of the population is understood as the totality of the processes of the birth rate, mortality and natural increase in the number of people.

Quantitatively, the indicators of fertility, mortality and natural growth are usually expressed per 1000 inhabitants – per mille ‰).

The formula for reproduction of the world's population is as follows:

$$28 ‰ (\text{birth rate}) - 10 ‰ (\text{mortality}) = 18 ‰ (\text{natural increase}).$$

Thus, the rate of natural growth for every thousand inhabitants in the world as a whole is 18 people. The world average life expectancy is 66 years.

The material and cultural level of people, the position of women in society, the characteristics of the sex and age structure of the population, national traditions and customs, religion, state demographic policies, etc. negatively affect fertility. Unemployment negatively affects fertility during crisis periods. Mortality is primarily affected by the level of development of the healthcare system, the level of well-being of the population, the age structure of residents, and war. In different countries, these factors affect differently, which causes strong fluctuations in fertility, mortality, and natural growth. In terms of the ratio of birth and death rates in different countries of the world, two types of population reproduction are distinguished. The first type of population reproduction is characterized by relatively low indicators of fertility, mortality, and natural growth. In this group of countries a high life expectancy of people (on average more than 80 years) is observed. This so-called modern type of reproduction is most widespread in economically developed countries – North America, Western and Eastern Europe, Japan and Australia. In some of them (Germany, Denmark, Austria, Sweden, Great Britain, Italy, Hungary, Romania, Bulgaria), expanded reproduction of the population has generally ceased, i.e. its population has either stabilized or decreased, and a natural decrease is observed. Among these countries is Ukraine, where in 2010, the birth rate was 10.8 ‰, the mortality rate was 15.2 ‰, and the natural increase was -4.4 ‰. The second type of population reproduction is characterized by high birth and natural growth rates and relatively low mortality rates. This type of population reproduction is most widespread in the developing countries of Africa, Asia and Latin America. These countries have managed to achieve a significant reduction in mortality, while the birth rate in them has always been traditionally high.

Task 2. Answer the questions in writing.

1. What factors influence the distribution of people?

2. What determines the population density in different areas?

3. What regions of the world have the highest population density?

4. How is the population of the Earth located?

5. What is the average population density?

6. In which hemisphere do more people live? Why do you think so?

7. What is population reproduction?

8. What determines the population of a country (territory, world)?

9. What factors determine the birth rate in a country?

10. What factors determine mortality in a country?

11. What type of population reproduction is characteristic of your country?

Practical work 7

Task 1. Read the text.

Racial and ethnic composition of the world's population

On the globe, people are divided into races. A race is a group of people who inherit certain characteristics of appearance. These characteristics are skin color, hair color, color of eyes, nose and lip shape, height and physique, blood type. There are such races on Earth as: Caucasian, Mongoloid, Negroid and Australoid.

Smaller groups stand out within the races. They are called ethnic groups. Ethnicity means people. There are more than 4000 ethnic groups or peoples in the world. An ethnicity has a common territory, language, culture, economy, religion, traditions. The most numerous people in the world are the Chinese.

The typical features of the world races are as follows:

Caucasian. The Caucasian race (also Caucasoid or Europid) is one of the main large races of humanity. Light skin, soft and wavy hair of the head, strong and medium hair growth on the face and body (in men), a narrow and sharply protruding nose, thin lips are characteristic of this race. Members of the race inhabit Europe, North Africa, Western Asia and North India with European colonization. The Caucasoid race has spread to America, Australia, and South Africa.

Mongoloid. The mongoloid (also Asian-American) race is one of the most numerous races of humanity. Yellowish skin, straight black hair, weak hair growth on the face and body, a weakly protruding nose, a flattened face, a significant protrusion of the cheekbones are its characteristics. Members of this race inhabit East Asia, Indonesia, Central Asia, Siberia and America.

Negroid. The negroid race is part of the large equatorial Negro-Australoid race. Dark skin, curly hair, a wide nose, thick lips are characteristic of it. Members of this race inhabit sub-Saharan Africa. The term "Negroid race" is sometimes used as a synonym for the equatorial race.

Australoid, or Australian race is part of the large equatorial (Negro-Australoid) race. Dark skin, a wide nose, wavy hair, strong hair growth on the face and body are characteristic of it. Members of this race inhabit Australia, South Asia and Oceania. Many anthropologists distinguish the Australian race as an independent large race.

Task 2. Answer the questions in writing.

1. How is the population located on the Earth?

2. What is the average population density?

3. In which hemisphere do more people live? Why do you think so?

4. What is a race?

5. What races are there on the Earth?

6. What race do you belong to? Describe it.

7. What is an ethnos?

8. What determines an ethnic group?

Task 3. Describe your friend (girlfriend), determine what race he (she) belongs to.

Practical work 8

Task 1. Read the text.

Religious population of the world

Religion has a great influence on people. Religion is based on belief in the existence of a god or gods. There are various forms of religions: tribal, national-state (ethnic), world (Buddhism, Christianity, Islam).

Tribal religions are associated with the faith of ancient people in the forces of nature, their worship. The formation of tribal alliances, conquest and resettlement led to a mixture of tribes and the emergence of larger ethnic communities. As a result of this, national-state (ethnic) religions arose. Initially, people worshiped many gods, which is called polytheism, for example, in Greece, those were such gods as Zeus, Athena, Aphrodite, Ares, etc. At the stage of the formation of states, monotheistic religions arose – with one god.

There are three world religions on the planet Earth: Christianity, Islam, Buddhism.

The main religions and their followers on the planet are distributed as follows (the data as of 2007): 33.32 % of Christians (including 16.99 % of Catholics, 5.78 % of Protestants, 3.53 % of Orthodox, 1.25 % of Anglicans), 21.01 % of Muslims, 13.26 % of Hindus, 5.84 % of Buddhists, 0.23 % of Jews, 11.78 % of other religions, 11.77 % of agnostics (non-religious), 2.32 % of atheists.

Christianity has three main branches: Orthodoxy, Catholicism, Protestantism. Christianity is based on faith in Jesus Christ, the God-man, the Savior. Christianity arose in the 1st century AD among the Jews of Palestine, immediately spread among other peoples of the Mediterranean. By the 13th century, all of Europe was Christian. In Russia, Christianity appeared in the 10th century. The total number of Christians in the world exceeds 2 billion people.

Islam is a monotheistic religion. Islam arose in Arabia in the 7th century, its followers are Muslims. The founder of Islam is Muhammad. As a result of the Arab conquests, Islam spread to the Near and Middle East, later to some countries of the Far East, Southeast Asia, and Africa. The number of the followers of Islam is 1.4 billion.

Buddhism arose in ancient India in the 6 – 5th centuries BC. The founder is Siddhartha Gautama (Buddha – enlightened). Buddhism is spread in Southeast and Central Asia, partly in Central Asia and Siberia. There are approximately 400 million Buddhists in the world.

Task 2. Answer the questions in writing.

1. What is religion?

2. What forms of religions exist on the Earth?

3. What world religions do you know?

4. What have you learnt about Christianity?

5. What have you learnt about Islam?

6. What have you learnt about Buddhism?

Task 3. Complete the following sentences.

1. Religion is based on belief in the existence _____

2. The historical forms of the development of religion are _____

3. Buddhism arose in _____
4. The founder of Buddhism is considered _____
5. Buddhism has spread to _____
6. Christianity has three main areas – these are _____
7. At the heart of religion is the faith in _____
8. The total number of Christians exceeds _____
9. The followers of Islam are _____
10. Islam arose in _____
11. The founder of Islam is _____
12. As a result of the Arab conquests, Islam spread _____
13. The number of the followers of Islam as of 2020 was _____

Practical work 9

Task 1. Read the text.

Migration of the population. City and rural population of the world

Population migration is the movement of people associated with a change of residence. Migration may be:

- irrevocable – with the final change of permanent residence;
- temporary – relocation for a sufficiently long but limited period;
- seasonal – moving in certain periods of the year.

Distinguish between external (leaving the country or entering the country) and internal migration. External migration includes emigration and immigration, while internal migration includes movement from village to city, inter-district relocation, etc.

Emigration is the departure of citizens from their country to another country for permanent residence (or for a long term) for political, economic or other reasons.

Immigration is the departure of citizens of one state to the territory of another state for a long time.

People move to new places when they are looking for work, better living conditions or are developing new lands.

The world's population is divided into urban and rural. Cities are centers of industry, science, education, and culture. Now cities are growing very fast. According to the number of people, there are small, medium, large and very large cities. Citizens are people who live in cities. Citizens constitute more than 50 % of the world population. Sometimes cities are interconnected, making agglomerations. Agglomerations can form around one city or around

different cities. The urban population of the world is growing very fast, the role of the city in the life of a country is increasing – this process is called urbanization.

Task 2. Answer the questions in writing.

1. What is migration?

2. What is the reason for this phenomenon?

3. What is the difference between external and internal migration?

4. What is emigration?

5. What is immigration?

6. What is the reason for the relocation of people from remote areas of the country closer to the capital?

7. What is agglomeration?

Task 3. Fill in the table "The largest cities in the world" using information from the Internet.

The largest cities in the world			
City	Number of people (million)	City	Number of people (million)
Tokyo		New York	
Delhi		Shanghai	
Sao Paulo		Calcutta	
Bombay		Dhaka	
Mexico City		Karachi	

Practical work 10

Task 1. Read the text.

The population of Ukraine

The official name of our country is Ukraine. The capital of Ukraine is Kyiv. The political system is a presidential-parliamentary republic. The legislature is a unicameral parliament (Verkhovna Rada). The administrative division is as follows: the Autonomous Republic of Crimea, 24 regions, 2 cities of republican subordination: Kyiv and Sevastopol.

The population of Ukraine is 41.7 million people (as of January 1, 2020). In Ukraine, 68 % of the population live in cities. The largest ethnic group of Ukraine, the indigenous population is Ukrainians (37.5 million people). Their distant ancestors were the Eastern Slavs. The ethnic composition of Ukraine is very diverse: according to the 2001 census, approximately 77.8 % of the population are Ukrainians, 17.3 % are Russians, 0.6 % are Belarusians, 0.5 % are Tatars and Moldavians, other nationalities are no more than 0.4 – 0.1 % (Bulgarians, Greeks, Jews, Romanians, Hungarians, Poles, Germans, Armenians, Georgians, Azerbaijanis, etc.).

In Ukraine, population professes different religions. Ukrainians, Russians, Belarusians are Orthodox. Crimean Tatars, Azerbaijanis profess Islam. From 10 to 30 % of the Ukrainian population are agnostics or atheists.

Now, in Ukraine, mortality exceeds birth rates, so the population is declining. In our country, average life expectancy of men is about 62 years; with women it is 73 years. The average population density is 75 people per square kilometer. The distribution of the population is uneven. The highest population density is in the Dnipropetrovsk region. In Ukraine, people are moving from village to city. The process of urbanization began in the 30s of the 20th century and continues these days. Before the start of World War II, in 1939, the proportion of the urban population of Ukraine was low, accounting for only 34.0 %. However, after war, it began to increase rapidly, reaching 46.7 % by the beginning of 1960. In subsequent years, the proportion of citizens steadily increased: by the beginning of 1970 it was 54.5 %, in 1979 it made 61.3 %, in 1989 it amounted to 66.9 %. Since 1992, the share of the urban population has stabilized at the level of 67.8 – 67.9 %. Thus, by the beginning of the 1990s, two thirds of the country's population lived in Ukrainian cities, while in 1939 it was only one third. The largest city in Ukraine is Kyiv, the capital of the state, with 2.7 million people living in it.

Major cities are also Kharkiv (1.44 million people), Odesa (1 million people), Dnipro (1 million people), Donetsk (984 thousand people), Lviv (734 thousand people).

Task 2. Answer the questions in writing.

1. What is the population of Ukraine?

2. What is the capital of Ukraine?

3. How many cities are there in Ukraine? Name them.

4. What are the ancient cities of Ukraine?

5. Why is the population decreasing?

6. What is the average life expectancy in Ukraine?

7. What nationalities live in Ukraine?

8. What religions are practiced in Ukraine?

9. What is typical of migration in Ukraine?

10. What big cities of Ukraine do you know?

11. Who are the townspeople?

Task 3. Fill in the table "The main cities of Ukraine".

The main cities of Ukraine			
City	Number of people (million)	City	Number of people (million)
Kyiv		Truskavets	
Kharkiv		Vinnytsia	
Odesa		Kropyvnytskyi	
Lviv		Ivano-Frankivsk	
Uzhhorod		Dnipro	

Task 4. Tell us about the national composition and population of your homeland.

Content module 2

The features of economic activity in different countries of the world

Topic 5. The geography of the world economy

The study of this topic should begin with the concept of the geographical model of the world economy. It is mandatory to clarify the structure of the world economy and the geography of industry. An important aspect is the study of the main sectors of the economy. Special attention should be paid to the acquaintance with the important types of industry, namely: fuel and energy, coal, electricity, metallurgy, machine building, chemical, forestry, woodworking, as well as food and consumer goods. An important aspect is the study of the geography of agriculture and its industry of commodity and consumer subbranches. When working on the topic of agriculture, attention should be paid to crop production, grain growing, industrial crops, as well as animal husbandry. The study of the geography of transport and the world transport system deserves special attention. Important aspects of this topic are land, water and air transport. The geography of communication and trade should be focussed on. It is necessary to study in detail the connection of the

environment with agriculture and transport and to analyze the consequences of the interaction.

Practical work 11

Task 1. Read the text.

World economy. Industry

The world economy is a combination of all national economies. It includes material production (industry, agriculture) and the non-production sphere – the service sector (transport, trade and other industries).

Industry consists of two large groups of industries – mining and manufacturing. Industry is conventionally divided into the production of means of production (group A) and consumer goods (group B).

350 million people are employed in the world industry. In former times, industrial enterprises were located near mineral deposits. Now they are located near scientific centers. The following factors affect the location of production: resources, energy, knowledge intensity, labour resources, environment, consumer (production is created close to the consumer), transport (delivery of products from producers to consumers), the geographical location (advantageous position near the sea and river).

Non-productive sectors include services (housing and communal services, consumer services, transportation and public services) and social services (education, healthcare, culture and art, tourism, science and scientific services, lending, financing and insurance, management and others).

Types of industry

Industry plays a major role in the world economy. The main industries are as follows:

Fuel and energy industry. The fuel and energy industry includes the production of various types of fuel and energy to ensure the production, domestic and export needs of the country.

The basis of world energy is the oil, gas and coal industries. Oil is extracted in 80 countries. Large reserves of oil are in Saudi Arabia, Iran, Russia, China, the United States.

Nowadays, the gas industry is developing rapidly. Gas is produced in Russia, Canada and the USA. In economically developed countries, coal is mined. The main countries for coal mining are Russia, China, Germany and the USA.

An important branch of modern industry is *electric power industry*. In the world, there are nuclear power plants (NPPs), hydroelectric power plants (HPPs) and thermal power plants (TPPs). Thermal power plants operate on coal, oil, gas. Hydroelectric power stations use water energy for work. They are built on large rivers. This type of electricity is the cheapest one. Nowadays, many countries are building nuclear power plants. Uranium is used for their work. There are nuclear power plants in Ukraine, France, Italy, Korea, Japan, Russia and other countries.

The metallurgical industry is the processes of obtaining metals from ore or other materials, changing the chemical composition, structure and properties of metal alloys, giving the metal a certain shape.

Metallurgy is divided into ferrous and non-ferrous.

The raw material for ferrous metallurgy is iron ore. Cast iron and steel are made from it. A lot of steel is produced in Ukraine, Russia, China, Japan, the USA.

Non-ferrous metals are aluminum, copper, zinc, lead. The process of producing non-ferrous metals is very difficult and energy-intensive. Many non-ferrous metallurgy plants are in Russia, Germany, Canada, and the USA. In terms of production, this industry is smaller than ferrous metallurgy.

Mechanical engineering includes: general mechanical engineering, transport mechanical engineering, radio-electronic, electrical engineering, instrument-making industry, agricultural mechanical engineering, machine-tool engineering, power mechanical engineering, etc. Engineering appeared in England 200 years ago. It is well developed in the USA, Japan, Germany.

The chemical industry includes: mining and chemical industry – the extraction of chemical raw materials (sulfur, potassium salts, phosphates, etc.); basic chemistry (production of mineral fertilizers, soda, acids, alkalis); polymer chemistry (production of plastics), paint and varnish industry, household chemistry production, chemical and pharmaceutical industry, etc. The chemical industry is very well developed in Germany, the USA, and Japan. In these countries they produce fertilizers, synthetic materials. Large petrochemical complexes are in Iraq, Iran, Egypt.

Forest industry includes forestry, woodworking, furniture industry, wood chemistry and pulp and paper production. Forestry is engaged in the study, accounting, reproduction and conservation of forests. Forestry is well

developed in countries with many forests. Russia, Canada, Sweden, and Finland are countries with well-developed forest industries. In northern countries, coniferous wood is produced. They make building materials, paper and cardboard from it. Deciduous wood is produced in Africa, Southeast Asia and Latin America.

Light industry produces consumer goods – clothing, shoes, haberdashery. The main sectors of light industry are textile, leather, fur, shoe, haberdashery. Light industry is well developed in Asia (China, India, Indonesia, Vietnam, Korea).

Food industry is the production of food. The food industry depends on agriculture. Food industry enterprises are located near cities and villages, i.e. next to consumers. The food industry is well developed in the USA, Europe, Japan.

Task 2. Answer the questions in writing.

1. What is the world economy?

2. What factors influence the location of production?

3. What are the main industries you know?

4. Tell us what you have learned about various industries.

Task 3. Complete the following sentences.

1. The fuel and energy industry is _____

2. Large reserves of oil are in _____

3. Gas is produced in _____

4. Thermal power plants operate on _____

5. Hydroelectric power stations use _____

Task 4. Tell us about the types of industry developed (developing) in your homeland.

Practical work 12

Task 1. Read the text.

Transport of the world

Transport is a branch of industry engaged in the transportation of people and goods. It plays an important role in the economy of any country and life of people.

There are land, water and air types of transport. Ground means of transport are rail, road and pipeline; water means are sea and river transport; air transport is aviation. Transport is divided into passenger and freight types.

The operation of transport is judged by its cargo turnover (the amount of cargo transported over a certain period of time at a certain distance), measured in ton-kilometers and passenger traffic (the number of passengers transported over a certain period of time to a certain distance), measured in passenger-kilometers.

Transport routes connect cities and villages, factories and mineral deposits. Near transport routes, new cities and factories are built. 100 million people are employed in world transport. The total length of the world's transport network is 35 million kilometers.

Road transport appeared at the beginning of the 20th century. The length of roads is growing. The longest roads are in the USA, Japan, China, India, Russia.

Rail transport is a type of land transport. There are railways in 140 countries of the world. There are many railways in the USA, Canada, Russia, India, China. New railways are rarely built now.

Pipeline transport appeared only in the second half of the 20th century. Pipelines connect the areas where oil and gas are extracted with the areas where they are processed, and sea ports. The longest pipelines were built in Canada, USA, Russia. Soon pipelines will be built at the bottom of the seas and oceans.

Sea transport serves 80 % of all international trade. Sea transport routes connect countries and continents. The first place in the world maritime transport is occupied by the Atlantic Ocean.

There are several shipping routes in the Atlantic Ocean:

1. The North Atlantic Route which connects Europe and North America.
2. The South Atlantic Way connecting Europe and South America.
3. The West Atlantic Way that connects Europe and Africa.

The second place is occupied by the Pacific Ocean, with the Indian Ocean being in the third position.

A major role in the development of maritime transport belongs to sea channels. The most important of them are Suez and Panama. Sea straits (the English Channel, Gibraltar, the Bosphorus Strait) are of great importance.

River and lake transport serves the domestic needs of countries. There are rivers that are international waterways. They are the Rhine, the Oder, the Danube. The largest traffic on inland waterways in the world is in the USA, Russia, Canada, China. The main areas of lake shipping in the world are US lakes.

Air transport is a young means of transport. It is mainly used for transporting passengers. For transportation of goods, air transport is used less frequently. The main countries of air transportation are the USA, Russia, Japan, England, France.

Task 2. Fill in the table "The types of transport".

The types of transport					
Ground (land)		Water		Air	

Task 3. Fill in the table "The largest seaport countries and ports"

Largest seaport country	Ports
1.	
2.	
3.	
4.	
5.	
6.	

Task 4. Answer the questions in writing.

1. Why does transport play an important role in the world?

2. What types of transport are there in the world?

3. What do you know about each type of transport?

Task 5. Write a story about the modes of transport in your country.

Topic 6. National economy of Ukraine

The study of this topic should begin with the general characteristics of the national economy of Ukraine. It is obligatory to get acquainted with the general characteristics of the industry of Ukraine and the laws of its territorial organization. An important aspect is the study of the concept of territorial-industrial complex. A significant issue in the study of the topic is the factors and conditions of location of enterprises. The acquaintance with the basic branches of the industry of Ukraine deserves special attention. An important aspect is the study of the general characteristics of agriculture in Ukraine and its branches of crop, livestock and agribusiness. The study of the issue of transport and the transport system of Ukraine deserves special attention. It is necessary to focus on the aspect of economic and geographical zoning. It is important and necessary to consider Ukraine in the world economy.

Practical work 13

Task 1. Read the text.

Economy of Ukraine

The national economy is a combination of industries and spheres of the country's economy. The national economy includes the branches of material production and non-production sphere.

The national economy of Ukraine consists of interconnected sectors: industry, agriculture, transport, communications, construction, trade, science, education, health and other sectors of the economy.

The main sector of Ukraine's economy is industry. It is divided into heavy industry and light industry. Heavy industry includes energy, engineering, metallurgy, chemical industry, forestry, mining. Heavy industries produce the means of production: machinery, equipment, electricity, raw materials, fuel.

Light industry includes textile, footwear, fur and other branches. Meat and dairy are food industries.

Light and food industries produce commodities: clothing, shoes, food and other commodities.

Task 2. Answer the questions in writing.

1. What are the sectors of the national economy of Ukraine?

2. What branches is heavy industry divided into?

3. What do light and food industries produce?

4. What does heavy industry produce?

Task 3. Complete the following sentences.

1. The national economy is an aggregate _____

2. The national economy includes such industries as _____

3. Industry is divided into _____

4. Industries include energy, engineering, metallurgy, chemical industry, forestry, mining _____

5. _____ relate to light industries.

6. Light and food industries produce such consumer goods as:

Task 4. Tell us about the national economy of your country.

Practical work 14

Task 1. Read the text.

Industry of Ukraine

The industry of Ukraine, like the industry of other developed countries, includes various branches.

Fuel and power industry of Ukraine. The fuel and power industry is characterized by the predominance of coal and brown coal over oil and natural gas. The main region of the coal industry is Donbas. In the region of Shebelinka, gas is produced. Oil refineries operate in Kremenchuh, Lysychansk, Kherson, Odesa. The republic imports fuel (oil and gas) from Russia and other CIS republics.

The electric power industry is based on large thermal stations operating on coal, natural gas and fuel oil. The cost of electricity generated at thermal power stations is high due to the high cost of mining Donetsk coal. For the operation of hydropower plants, water is used. These power plants are built

on large rivers. Hydroelectric power plants account for a small share of electricity produced in Ukraine. The largest hydropower plants form a cascade of six stations on the Dnieper with a total capacity of over 3 million kW (Kyiv, Kaniv, Kremenchuh, Dniprodzerzhynsk, Dnipro, Kakhovka). There are nuclear plants. At one of them – the Chernobyl nuclear power plant – in 1986, a major accident occurred, due to which the construction of new nuclear power plants was suspended.

Now an increased level of radiation is observed on an area of about 10 thousand km² (including 1.5 thousand km² in Ukraine). Despite the large number of power plants, Ukraine is experiencing a shortage of electricity.

The *metallurgical industry* is divided into ferrous and nonferrous. Iron and steel industry includes iron ore mining and pig iron production. *Ferrous metallurgy* is a highly developed branch of the Ukrainian economy. The availability of large reserves of coking coal and iron ore has led to the creation of a powerful metallurgical base, as well as metal-intensive engineering in Ukraine. The largest enterprises of the industry are located in three areas:

- 1) Dnipro (13 large enterprises in Dnipro and Zaporizhzhia);
- 2) Donetsk (14 large enterprises in Yenakiievo, Kramatorsk, Makiivka, Donetsk, Khartsyzk, etc.);
- 3) Pryazovia (5 large enterprises).

The ferrous metallurgy of Ukraine has a number of features and problems – over 95 % of all manufactured products are produced at large full-cycle enterprises with a capacity of at least 1 million tons per year. The industrial enterprises of Ukraine include ore and flux mining and processing enterprises, enterprises of small metallurgy, enterprises for the production of ferroalloys, as well as enterprises producing refractories.

A significant part of the industry's products was made for the needs of the military-industrial complex; therefore, at present, despite significant volumes of production, the Ukrainian economy is experiencing an acute shortage of special high-quality steel grades and special types of rolled products.

Non-ferrous metallurgy produces metals that are used in mechanical engineering and the electric power industry, for example aircraft make aluminum. The territory of Ukraine is relatively poor in non-ferrous metals. 100 % import of non-ferrous metals falls on copper, tin, zinc, tungsten, silver, etc. This is why, in Ukraine, there are a large number of enterprises for the

processing of non-ferrous metal scrap and industrial waste. The most developed industries and enterprises in Ukraine are:

- gold. Annually, about 300 kg of gold is mined in Transcarpathia; about 100 kg of gold is produced at the Dnipro plant "Yuzhmash"; about 100 kg is made at specialized enterprises of non-ferrous metallurgy (waste and scrap processing);

- silver. Annually, about 500 kg of silver is produced at the Yuzhmash Dnipro plant; 300 kg is made at specialized enterprises for the disposal of scrap and raw materials; about 5 tons is released at a specialized plant in the small town of Shostka;

- aluminum. Zaporizhzhia, Verkhniodniprovsk, Mykolaiv;

- Pobuzke Nickel Plant;

- Mykytivka Mercury Plant;

- Artemivsk and Kostiantynivka non-ferrous metal plants – scrap processing plants.

The machine-building complex is a leader in the national economy of Ukraine. Many metal-intensive industries have long been formed here. Ukraine specializes in the production of ships and diesel locomotives, trucks and tractors, metallurgical, mine and energy equipment.

The geography of engineering centers is very diverse: rolling mills, metallurgical equipment, excavators (Kramatorsk), coal combines and mine equipment (Horlivka), diesel locomotives (Luhansk). In Kremenchuh and Zaporizhzhia, automotive industry is developed. The main center of metal-consuming and labour-intensive engineering is Kharkiv. Ships are built in Mykolaiv and Kherson; buses are made in Lviv. In the western regions of Ukraine, labour-intensive industries are developed: instrument making, electrical engineering, and electronics. The proximity of Ukraine to the seas into which its rivers flow contributed to the development of shipbuilding. The shipyards of Mykolaiv, Kherson, Kyiv produce all kinds of vessels.

A diverse *chemical industry* uses local raw materials: waste metallurgy and coke chemistry, gas, coal, salts. The branches of specialization are the production of mineral fertilizers, soda, synthetic dyes. The chemistry of organic synthesis and polymers is underdeveloped. Petrochemical enterprises operate in Horlivka, Sievierodonetsk. Mineral fertilizers are produced in Kamianske, Sumy, Kostiantynivka; soda is made in Lysychansk and Sloviansk; varnishes and paints are produced in Dnipro. Based on the deposits of mineral raw materials, the industry of building materials was created.

Timber industry. Forest resources of Ukraine are very limited, the forest cover of the territory is 14.3 %. The main forests are concentrated in the Carpathians, in Polissia and in the mountains of Crimea. Valuable tree species are widespread – beech, oak, spruce, pine, ash.

The logging industry was formed in the Carpathians and in Polissia (90 % of all logging). The forests are exhausted by ruthless exploitation. A significant amount of forest is imported from abroad. Industry problems are associated with a more complete and rational use of harvesting waste, forest reproduction, and improvement of the environmental situation.

Pulp and paper industry. The location of enterprises in this industry focuses on raw materials, water, the availability of electricity and skilled labour.

Enterprises are located mainly in forestry areas. The main component for cellulose production is coniferous and deciduous wood, sawmill and woodworking waste. Cellulose is used for the production of paper and paperboard. Given the small stock of primary raw materials – cellulose, – almost all pulp and paper enterprises in Ukraine are focused on the production of paper and cardboard from recycled materials – waste paper.

Furniture factories are mainly located in large cities, such as Kyiv, Lviv, Odesa, Kharkiv.

Light industry gives people clothes, shoes and fabrics. Light industry is developed near the consumer. Light industry is associated with agriculture and the chemical industry. Women work in it, and therefore enterprises are located in large cities, where there are a lot of labour resources. Enterprises are oriented towards consumers (sewing, leather-shoe, knitted goods) and raw materials (textile). With the development of market relations in Ukraine, the transport factor is put forward.

In 2016, clothing production amounted to about 40 % of the total number of products sold, production of textiles made 37 %, production of leather and shoes was more than 20 %.

The Lviv region (14.4 %) led the regional rating in the production of light industry goods in 2016, followed by the Zhytomyr region (8.7 %), the Kharkiv region (8.5 %), the Dnipropetrovsk region (7 %) and Kyiv (6.9 %) [14].

Food industry gives people food. It is connected with agriculture, because food production receives raw materials from agriculture: grain, milk, vegetables, fruit. There are food industry enterprises throughout Ukraine. Almost 95 % of the food products sold on the domestic market are domestic products. Groceries are exported to more than 40 countries. This industry

ranks 1st in foreign investment influence. About 0.9 billion US dollars came to industry (as of 2007), which is 19 % of all foreign investment in the Ukrainian economy.

Task 2. Answer the questions in writing.

1. What determines the placement of industries?

2. Where are the large industrial centers situated?

3. What gives the main income of Ukraine?

4. Where is oil extracted in Ukraine?

5. Where is gas extracted in Ukraine?

6. Where is coal mined?

7. Where is coal used?

8. Where are the largest power plants situated in Ukraine?

9. Where in Ukraine are there many enterprises of ferrous metallurgy?

10. What factor affects the location of engineering?

11. What industries is the chemical industry associated with?

Task 3. Complete the following sentences.

1. Oil and gas production _____
2. Oil is extracted in _____
3. Russia has different types of modern energy. They are atomic

-
4. Non-ferrous metallurgy plants are being built close to _____
 5. Engineering enterprises produce _____
 6. Factories of the chemical industry are nearby _____
 7. Light industry is associated with _____

Task 4. Write a story about the industry of your country.

Practical work 15

Task 1. Read the text.

Agriculture of the world and Ukraine

Man has been engaged in agriculture since antiquity. Agriculture provides people with food, provides industry with raw materials. Now about half of the world's population is engaged in agriculture.

Agriculture depends on natural conditions. In agriculture, artificial irrigation of fields, drainage of swamps is used. World agriculture consists of plant growing and animal industries.

Plant growing includes field cultivation, vegetable growing, horticulture, forestry, floriculture, etc.

The basis of nutrition is grain farming. Cereals are wheat, rice, rye, oats, corn. Wheat and corn are grown on all continents, but especially in the northern hemisphere. Most rice is grown in Asia. In addition to crops, oilseeds are used. Large areas are occupied by soy, peanuts, sunflowers, olives, sesame seeds.

The most common root crop is potatoes. Many potatoes are grown in Russia, Poland, China. Vegetables, fruit and berries play a large role in the nutrition of people. They contain the necessary trace elements and vitamins.

Animal industry provides population with food (milk, meat, eggs, etc.), produces raw materials for light industry (wool, leather, etc.). Animal breeding includes cattle breeding, pig breeding, sheep breeding, horse breeding, poultry farming, animal husbandry, fish farming, beekeeping, etc.

For some peoples animal industry is the main source of life. Animal industries are developed in all regions and countries of the world. Animal industry products come from temperate climate countries.

Fish farming is breeding, increasing and improving the quality of fish stocks. 90 % of fish is caught in the seas and oceans, and 10 % in rivers and lakes. More than 50 % of fish products are produced in 6 countries: Japan, China, USA, Chile, Peru, Russia.

Historically, Ukraine has been an agro-industrial country. Black soil, which occupies 60 % of Ukrainian land, is the natural wealth of Ukraine. More than 40 % of all agricultural products of Ukraine are grown without the use of pesticides; as a result of this, Ukrainian food is the most natural and prosperous in Europe.

Among all European countries, Ukraine is the leader in the cultivation of sugar beets, buckwheat and carrots, it takes the second place in the cultivation of wheat and tomatoes. 28 % of the total population of Ukraine work in the agricultural sector. After the collapse of the USSR, farms and households appeared in Ukraine. Each year the number of farms increased, resulting in increased productivity.

The climate of Ukraine is dry and warm during the summer, cold and humid during the winter.

The weather is suitable for both winter and spring crops. The average annual rainfall in Ukraine is approximately 600 millimeters, including approximately 350 millimeters during the growing season. Of the 60 million hectares of land, approximately 42 million are classified as arable land, which includes cultivated land for sowing grain, industrial crops, fodder, vegetables, orchards, vineyards, and permanent meadows and pastures.

Task 2. Fill in the table "Main countries for the production of crops". Enter the names of the countries that grow wheat, rice, corn, barley, buckwheat.

Main countries for the production of crops				
Wheat	Rice	Corn	Barley	Buckwheat
1.	1.	1.	1.	1.
2.	2.	2.	2.	2.
3.	3.	3.	3.	3.
4.	4.	4.	4.	4.
5.	5.	5.	5.	5.

Task 3. Fill in the table "Major countries in livestock production"

Major countries in livestock production		
Cattle breeding	Pig breeding	Poultry farming
1.	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	4.

Task 4. Answer the questions in writing.

1. What does agriculture give a person?

2. What does agriculture depend on?

3. What is included in world agriculture?

4. What agricultural sectors are included in crop production?

5. What crops are there? Where are they grown?

6. What oilseeds are there? Where are they grown?

7. What livestock industries are developed in your country?

Task 5. Complete the following sentences.

1. Agriculture gives a person _____

2. World agriculture consists of _____

3. Cereals are _____

4. In world agriculture, oilseeds occupy large areas – they are _____

5. The most common root crop is _____

6. Vegetables, fruits and berries contain necessary for man _____

7. Livestock provides the population _____

8. Livestock provides light industry _____

Practical work 16

Task 1. Read the text.

Transport of Ukraine

In Ukraine, all types of transport are developed. Transport of Ukraine, due to the peculiarities of the geographical position of the country with the

main transport corridors East – West and North – South, is of great international importance. The transport factor partially determines the sectoral and territorial structure of the country's economy, since any transport of raw materials, materials or finished products requires a certain amount of labour, and the cost of transported products increases.

Railway transport. The first railway in the territory of modern Ukraine was laid in 1861 between Lviv and Peremyshl, the next one from Odesa to Balta in 1865. Then the intensive construction of railroads began, and in 1913 there were 15.6 thousand km of railroad tracks.

Nowadays, the highest density of railways is typical of Donbas, Dnipro, and some western regions of Ukraine. Rail transport of Ukraine ranks first in terms of cargo turnover, reaching almost half of it.

Ukraine has access to almost all countries of Central and Western Europe, and, through the territory of Belarus, to the Baltic countries. The railway ferry from Crimea to the Caucasus (across the Kerch Strait) allows communication with the countries of the Caucasus, Turkey and Iran.

At the intersection of highways, railway junctions are formed. The largest among them in Ukraine are Kharkiv, Kyiv, Dnipro, Lviv, Kovel, Yasynuvata, Debaltseve, Kryvyi Rih, Apostolovo, Zhmerynka, Znamenka, Konotop, Krasnoarmiisk, Korosten and some others.

Automobile transport. In Ukraine, road transport began to develop intensively in the post-war period. Its distinguishing feature is transportation mainly over short distances, in which road transport significantly prevails over other types. The most effective road transport is to distances up to 50 km.

Sea transport. Sea transport carries goods and passengers in the Black Sea – Azov basin, where ice-free seaports are located, which have relatively shallow approaches and ports of the lower reaches of the Dnieper and Danube rivers, through which sea vessels can rise hundreds of kilometers from the mouth.

In terms of average freight transportation distances (about 6000 km), maritime transport ranks first among other modes of transport, but in terms of passenger transportation distance it is significantly inferior to railway and especially air. The structure of cargo transportation by ships is dominated by metal ores, coal, oil and oil products, and construction materials. Among export cargoes, iron and manganese ores, coal, machinery and equipment, products of the chemical industry, as well as agriculture predominate.

The largest seaport of Ukraine is Odesa, equipped for container transportation and having communication with more than a hundred countries of the world. Here, at the Odesa-Port railway station, transshipment from railway to maritime transport and vice versa takes place – about a fifth of the country's cargo turnover is processed.

In the northern part of the Black Sea the following ports are situated: Chornomorsk (where the international ferry service with Bulgaria operates), Pivdennyi (designed for the processing of ammonia, coming through the pipeline from Russia), Mykolaiv (at the mouth of the Southern Buh, where they mainly handle cargoes of oil, manganese ore and coal), Kherson (at the mouth of the Dnieper, where cargo is transhipped from river to sea vessels and vice versa). Sea ports are located at the mouth of the Danube – Vilkovo, Kiliia, Izmail and Reni. Significant ports of the Sea of Azov are Kerch, Mariupol and Berdiansk (mainly processing iron ore, coal and fish products).

Passenger traffic is carried out by 17 seaports in Ukraine. Their largest volume falls on the Black Sea ports – Sevastopol, Yalta, Yevpatoriia and Odesa, much smaller – on Feodosiia, Izmail, Chornomorsk, Kerch and Berdiansk.

River transport. The maximum total length of river shipping lanes in Ukraine was about 5 thousand km, and during the years of independence it has more than halved. In the transport of goods (building materials, coal and coke, iron and manganese ore), river transport overtakes only air, and in passenger traffic it ranks last. The Dnieper basin plays the main role in river transport (over 90 % of all traffic is carried out along the Dnieper, Prypiat and Desna), and the ports of Kyiv, Dnipro, Kherson and Zaporizhzhia account for over 85 % of the total volume.

The main river line of interstate transport is the Danube, by which coal, iron and manganese ore, machinery and equipment, chemical, light and food industry goods, grain, and other goods are transported.

The most expensive and fastest form of transport is *air transport*. There are well-developed air links between large cities and resorts. Air transport is used in agriculture and in extinguishing forest fires.

Major domestic carriers are Aerosvit, Wizz Air, Dniproavia and Ukraine International Airlines. The most popular destinations are flights from Kyiv to Odesa and from Kyiv to Simferopol.

Some cities of Ukraine (Kyiv, Odesa and Simferopol) have two airports each. The largest volume of passenger traffic (more than 3 million people a

year) is carried out through Boryspil Airport, located in the Kyiv region. Passenger traffic in Ukraine is characterized by seasonality, and the main passenger flow is in the warm season. In each case, up to five flights per day are operated. In other directions, the frequency of communication does not exceed 1–2 flights per day: Lviv, Luhansk, Ivano-Frankivsk, Dnipro, Chernivtsi, Donetsk, Kharkiv, Uzhhorod.

Pipeline transport. Pipeline transportation is designed to transport oil, gas and other liquid, gaseous and bulk substances. The largest oil pipeline, Druzhba, is a trans-European highway, and within Ukraine, it has a length of 680 km. The Michurinsk (Russia) – Kremenchuh oil pipeline with a length of 313 km within Ukraine, as well as the ethylene pipeline from Kalush (Ivano-Frankivsk region) to Hungary, belong to the interstate lines. The longest internal oil pipelines are Kremenchuh – Kherson (428 km), Hnidyntsi – Kremenchuh (395 km). In the west of the country, there are small oil pipelines Dolina – Drohobych (58 km) and Bytkiv – Nadvirna (15 km).

The gas pipeline network of Ukraine has a more extensive configuration. Powerful gas pipelines Dashava – Kyiv – Moscow (1330 km), Shebelinka – Minsk – Vilnius – Riga (1198 km) were built in connection with the start of operation in the 1950s. Shebelinka (Kharkiv region) and Dashava (Pre-Carpathian) gas fields, and after the discovery of fields in the Crimea, gas pipelines of local importance Hlibivka – Simferopol and Dzhankoi – Simferopol were built.

Urban transport. The main purpose of urban transport is the transportation of passengers. The rapid population growth rate in large cities (during the Soviet years) required constant development of the urban transport. The rhythm of the functioning of the entire economy of the country largely depends on the effectiveness of its work. The main types of urban transport include tram, trolleybus, bus and metro.

In Ukraine, 24 cities have tram depots, most of which were built in the 1930s. Light rail lines operate in Kyiv and Kryvyi Rih. Over a year, more than 1 billion passengers are transported by trams in the country.

The trolleybus service appeared two decades later than the tram service, but in all respects it has already exceeded tram. Trolleybuses transport about 1.8 billion passengers per year in 47 cities of the country.

The most progressive and convenient form of urban transport is the metro, which appeared in the capital of Ukraine in 1960, and now operates in 3 cities (Kyiv, Kharkiv and Dnipro). Despite the fact that the total length of all

Ukrainian metro lines barely exceeds 100 km, they carry about 1 billion passengers a year.

Most Ukrainian cities have a bus service. By all indicators, this type of urban transport exceeds all others and transports more than 4 billion passengers a year.

Task 2. Answer the questions in writing.

1. What type of transport is considered to be the main one in Ukraine?

2. Why is road transport important for Ukraine?

3. What are the main transport rivers of Ukraine?

4. Which transport is the most maneuverable one?

5. What pipelines pass through the territory of Ukraine?

6. What airports in Ukraine have you visited?

7. What is air transport used for?

8. What city transport do you have in your city?

9. What is transported by sea and river in Ukraine?

Task 3. Tell us about the transport of your country.

Topic 7. The geography of division of labour

The study of this topic should begin with the concept of international division of labor. It is necessary to find out how the geographical location, natural conditions, socio-economic conditions affect the international division of labor. Familiarity with the areas of international specialization is mandatory. An important aspect is the study of interdisciplinary specialization of production. A notable issue in the study of the topic is the intra-industry specialization of production. The acquaintance with the subject and technological specialization of production deserves special attention. Another important aspect is the study of the topic of specialization and cooperation in the field of mechanical engineering. The study of the emergence of technopolises in Japan and the United States deserves special attention.

Practical work 17

Task 1. Read the text.

The geography of division of labour

The division of labour is the specialization of labour activity, the coexistence of its types. The social division of labour is the allocation of various functions performed by certain groups of people. The technical division of labour is the division of labour within an enterprise, an organization. The specialization of production within and between countries is called the territorial and international division of labour.

The simplest form of division of labour appeared on earth many thousand years ago. This was division of labour between men and women, between adults, children and old people. Subsequently, the division of labour led to the emergence of various social groups.

In the modern era, the international division of labour is growing, which contributes to the development of global integration processes.

Currently, there is international geographical division of labour. For the existence of international geographical division of labour, the following conditions are needed:

- 1) rich economic resources of the producing country;
- 2) countries that need products of the "rich" countries;
- 3) favorable conditions (product quality, price, transportation capabilities).

The world economy is a system of interconnected national economies. There are four large regional economic organizations in the world: the European Union (27 countries) in Europe, the North American Free Trade Agreement (USA, Canada, Mexico) in America, the Association of Southeast Asian Nations (which includes 10 countries) in Asia. The European Free Trade Association includes those countries of Europe that are not members of the EU.

The European Union (EU) was established in 1993. It united 12 countries: Belgium, the UK, Germany, Greece, Denmark, Ireland, Spain, Italy, Luxembourg, the Netherlands, Portugal, France. In 1994, Austria, Finland and Sweden entered into EU agreements. The agreement provides for the creation of a political, economic and monetary union (the so-called Europe without borders). In 2004 and later years, 10 countries more joined the EU, including those from the former USSR: Latvia, Estonia, Lithuania, the countries of Western Europe: Poland, the Czech Republic, Slovakia, Slovenia, Hungary, as well as Cyprus and Malta. In 2007, Bulgaria and Romania entered the EU, in 2013 Croatia joined.

The Association of Southeast Asian Nations (ASEAN) was founded in 1967. It includes Indonesia, Malaysia, Singapore, Thailand and the Philippines. In 1984, Brunei was adopted. The goals of the association are economic, social, cultural and political cooperation. In 1990, Myanmar, Cambodia, Laos, and Vietnam joined the organization. ASEAN deals with the problems of economic and social development of the region, attracting investments in poor countries, developing the latest technologies, and combating drug trafficking.

The North American Free Trade Agreement (NAFTA) united USA, Mexico, Canada. The agreement on the creation of the North American free trade zone was signed in 1992.

The European Free Trade Association (EFTA) was created in 1960 by a number of European states that were not members of the European Economic Community, to compete with it. Initially, it included Austria, the UK, Denmark (until 1973), Norway, Portugal (until 1983), Switzerland, Sweden. Later, Iceland, Finland and Liechtenstein entered. In 1977, in the EFTA trade with the European Economic Community, customs duties on industrial goods were abolished. Free trade agreements were also concluded in 1991 – 1993 with Turkey, the Czech Republic, Slovakia, Israel, Poland, Romania, Hungary and Bulgaria.

Task 2. Answer the questions in writing.

1. What is the division of labour?

2. What is the reason for the social division of labour?

3. What is the technical division of labour?

4. What is the territorial and international division of labour?

5. What is the simplest form of division of labour?

6. What is the international geographical division of labour?

7. What conditions are necessary for the existence of international geographical division of labour?

8. What are the world regional economic organizations?

9. Which countries are members of the EU?

10. Which countries are members of the ASEAN?

11. Which countries are members of the NAFTA?

12. Which countries are members of the EFTA?

Task 3. Complete the following sentences.

1. The simplest form of division of labour is between _____
2. The world economy is a system of interconnected _____
3. The European Union (EU) was established in 1993 on the basis of _____

4. The EU Treaty provides for the creation of political, economic and _____

5. The Association of Southeast Asian Nations (ASEAN) was founded in 1967 as part of _____

6. ASEAN deals with problems _____

7. An agreement to create a North American free trade zone was signed _____

8. The European Free Trade Association (EFTA) was established in 1960 by a number of non-member European states _____

Task 4. Decipher the abbreviations:

EU – _____

ASEAN – _____

EFTA – _____

NAFTA – _____

Topic 8. International economic integration

The study of this topic should begin with a general definition of international economic relations. It is necessary to highlight the essence of the concepts of international trade, international credit and financial relations and international scientific and technical relations. It is obligatory to get acquainted with the issue of internationalization of production and creation of transnational corporations. An important aspect is the study of Ukraine's international relations, as well as the essence, stages and forms of international economic integration. A notable issue in the study of the topic is the forms of international economic integration, namely the free trade zone, the customs union, the common market, the economic union, the political union, international organizations and complexes. Important parts of the topic are the study of the European Union, the Latin American Association for Integration, the Commonwealth and the Common Market of the Caribbean,

the Central American Common Market, the Association of Southeast Asian Nations, the South Asian Regional Community Association, the African Economic Community and the Economic Community of the Great Lakes Region, the Central African Economic Union. Special attention should be paid to the acquaintance with the countries of the world according to the classification of the World Bank and the International Monetary Fund (IMF).

Practical work 18

Task 1. Read the text.

International economic relations

In the world, there are various economic relations between countries. This is trade, credit and financial relations, scientific and technical cooperation, tourism.

The main form of economic ties is international (foreign) trade. International credit and financial relations are the provision of loans and credits, the export and import of capital. The main exporters of capital are economically developed countries: the USA, the UK, Germany, Japan.

Scientific and technical relations are cooperation in research, the exchange of students, specialists and scientists, assistance in the construction of enterprises.

International services include hiring of ships, transport services, legal services, insurance. An important form of service is international tourism.

There are different types and forms of tourism: domestic, international, near, distant, educational, water, mountain, automobile, pedestrian, sports, etc. The World Tourism Organization (UNWTO) was founded in 1975. It includes about 130 countries.

In recent years, the geography of foreign trade of Ukraine has changed. For a long time, Ukraine had been trading with countries in Eastern Europe. She exported cars, machine tools, weapons. Now Ukraine is trading with different countries. Main trading partners are Belarus, Germany, Italy, the USA, Poland and China.

In addition to foreign trade, other forms of economic cooperation are developing. Ukraine cooperates in scientific and technical fields with other countries (Germany, the USA, France).

Task 2. Answer the questions in writing.

1. What type of activities pertain to international economic relations?

2. What is international financial relations?

3. Which countries are the main exporters of capital?

4. What activities relate to international scientific and technical relations?

5. What are the types and forms of tourism?

6. What types and forms of international economic relations are developed in your country?

Task 3. Complete the following sentences.

1. International economic relations are _____

2. International credit and financial relations imply the provision of _____

3. _____ communications mean cooperation in research, the exchange of students, specialists and researchers.

4. The World Tourism Organization (UNWTO) was founded _____

5. Ukraine cooperates with Germany, _____

Topic 9. The scientific and technological revolution

The study of this topic should begin with the definition of the concept of scientific and technological revolution. It is necessary to study the characteristics and components of the scientific and technological revolution. Familiarity with the role of the chemical industry in the course of scientific and technological progress is mandatory. When studying the topic, it is necessary to trace the connection between science, technology and engineering. It is necessary to find out how the STC affects the main proportions of the world economy and

the sectoral structure of material production. An important aspect is the study of the level of development of STC in different countries. The study of the positive and negative impact of the scientific and technological revolution on people's lives deserves special attention.

Practical work 19

Task 1. Read the text.

The scientific and technological revolution

The entire development of human civilization is closely related to progress. But against the background of this progress, there are separate periods of rapid and profound changes in the productive forces. This was the period of industrial revolutions in some countries in the eighteenth and nineteenth centuries. This industrial revolution became important due to the transition from manual production to large-scale machine production. This was the period of the modern scientific and technological revolution, which began in the middle of the 20th century.

The scientific and technological revolution is a qualitative revolution in the productive forces of humanity, based on the transformation of science into the direct productive force of society.

Four main features characterize the modern scientific and technological revolution.

Firstly, it is versatile and comprehensive. It transforms all industries and spheres, the nature of work, everyday life, culture, psychology of people. While the steam engine is usually considered as a symbol of the industrial revolution of the past, computers, spaceships, nuclear power plants, jet planes, TV, and Internet symbolize the modern scientific and technological revolution. The comprehensiveness of the modern scientific and technological revolution can also be interpreted both geographically, since it has affected all countries of the world, and in terms of all geographic shells of the Earth, as well as outer space.

Secondly, it is characterized by an extraordinary acceleration of scientific and technical transformations. It manifests itself in a sharp reduction in the time between a scientific discovery and its introduction into production. This is expressed in a faster obsolescence and, consequently, in the constant renewal of products.

Thirdly, the scientific and technological revolution has sharply increased the requirements for the level of qualifications of labor resources. It has led to

the fact that in all spheres of human activity the share of mental labor increased, i.e. intellectualization of labor took place.

Fourthly, an important feature of the scientific and technological revolution is that it originated during the Second World War as a military and technical revolution. The explosion of the atomic bomb in Hiroshima in 1945 was the loudest announcement about its beginning.

Modern scientific and technological revolution is a single complex system in which four components closely interact with each other: 1) science, 2) engineering and technology, 3) production, 4) management.

Science in the era of scientific and technological revolution has become a very complicated complex of knowledge. Now science forms a vast sphere of human activity in which about 10 million people are now involved, that is, more than 9/10 scientific workers who have ever lived on Earth are our contemporaries. The ties between science and production, which are becoming more knowledge-intensive, have especially grown.

The United States leads the world in terms of the absolute number of scientists and engineers, followed by Japan and the countries of Western Europe, where spending on science accounts for 2–3 % of the gross domestic product. At the beginning of the 21st century, China also entered it. In most developing countries, spending on science does not exceed 0.5 % on average.

Technique and technology embody scientific knowledge and discoveries. The main purpose of using new equipment and technology is to increase production efficiency and labor productivity. Recently, along with the main – labor-saving – function of equipment and technology, the resource-saving, environmental and informational functions have become increasingly important.

In Great Britain and Italy, 2/3 of steel is obtained from scrap metal; in Germany and Great Britain, more than 2/3 of paper is obtained from waste paper; in the USA and Japan, most of the aluminum is obtained as secondary aluminum.

In the conditions of scientific and technological revolution, the development of technique and technology occurs in two ways.

The evolutionary path consists in the further improvement of already known equipment and technology – in increasing the power (productivity) of machinery and equipment, in increasing the carrying capacity of vehicles.

The revolutionary path consists in the transition to a fundamentally new technique and technology. It finds its most vivid expression in the production of electronic equipment. Indeed, they used to talk about the "age of textiles", the "age of steel", the "age of the automobile", and now – about the "age of microelectronics". The "second wave" of the scientific and technological revolution, also called microelectronic revolution, began in the 70s.

The breakthrough to new technologies is also of great importance.

In mechanical engineering, it is a transition from mechanical methods of metal processing to non-mechanical ones, i.e. electrochemical, plasma, laser, radiation, ultrasonic, vacuum, etc. In metallurgy, it is the use of the most progressive methods of producing cast iron, steel and rolled products. In agriculture, it is landless farming (zero tillage), in the field of communications – radio relay, fiberglass communications, telexes, telefaxes, e-mail, paging and cellular communications, etc.

In the era of scientific and technological revolution, production develops in six main directions.

The first direction is electronization, that is, the saturation of all areas of human activity with electronic computers. Computerization is changing the technology of many manufacturing processes. It influences education, health care and people's everyday life. The electronic industry is the brainchild of scientific and technological revolution. While at the beginning of the scientific and technological revolution it was still part of electrical engineering, in the mid-80s, the cost of production had already reached the level of the oil industry; at the turn of the 90s, it overtook the automobile production, and at the end of the 90s, it left behind the chemical industry. Today, the cost of its products has already exceeded \$2 trillion. The electronic industry largely determines the entire course of the scientific and technological revolution. This industry is the most developed one in the USA, Japan, Germany, and some newly industrialized countries.

The second direction is complex automation. It began in the 50s in connection with the advent of computers. A qualitatively new stage in complex automation is associated with the appearance of microcomputers and microprocessors in the 70s. A new era is associated with microprocessors in the use of a variety of electronic and mechanical manipulators, which, in the 1920s, the Czech writer K. Čapek called robots. The emergence of robotics led to the creation of flexible production systems, automatic factories. Robotics has become one of the most important high-tech industries, and the

total number of industrial robots in the world at the beginning of the 21st century reached almost 1 million. The largest park of such robots is in Japan, the USA, Germany, Italy, and the Republic of Korea.

The third direction is the re-equipment of the energy sector based on energy conservation, improvement of the structure of the fuel and energy balance, and a wider use of new energy sources. The development of nuclear energy is causing many problems. At the beginning of the 21st century, there were 440 nuclear power units in the world. This industry has received the greatest development in the USA, France, Japan, Germany and Russia. After the accident at the Chernobyl nuclear power plant in 1986, many countries declared a moratorium on the construction of nuclear power plants, but at the beginning of the 21st century, the construction of nuclear power plants accelerated again, especially in China and India.

The fourth direction is the production of new materials. Modern production places much higher demands on old construction materials – ferrous and non-ferrous metals, synthetic polymers, the share of which has increased. It also gave rise to fundamentally new composite, semiconductor, ceramic materials, optical fiber, as well as such "metals of the 20th century" as beryllium, lithium, titanium (metal number one in the aerospace industry) and many others.

The fifth area is the accelerated development of biotechnology. This direction emerged in the 70s but has already become one of the most promising areas. Biotechnology and bioindustry, which belong to the most science-intensive newest branches of scientific and technological development, are developing especially successfully in the USA, as well as in Japan, the Federal Republic of Germany, and France. The main areas of application of biotechnology are: increasing the productivity of agricultural production, expanding the range of food products, increasing energy resources, protecting the environment using biotechnological methods.

The sixth direction is cosmization. The development of astronautics has led to the emergence of another newest science-intensive industry – the aerospace industry. It is associated with the emergence of many new machines, devices, alloys, some of which find application in non-space industries. Cosmonautics gave a "start in life" to space technologies, space geography. The results of space research have a huge impact on the development of fundamental sciences.

We live in an era of "information explosion", when the volume of scientific knowledge and the number of sources of information are growing very rapidly. Today, there is a global information space. An important role in the creation of the global information space belongs to the Internet – the Worldwide Computer Telecommunication System, which started in the USA in 1969. In 2007, it had already been used by about 1.2 billion people all over the world. At the beginning of 2020, more than 4.5 billion people used the Internet, and the audience of social networks exceeded the 3.8 billion mark. Almost 60 % of the world's population is already online.

Task 2. Answer the questions in writing.

1. What is the scientific and technological revolution?

2. What are the four main features of the scientific and technological revolution?

3. What are the six main directions of the development of scientific and technological revolution?

4. What is the evolutionary path of development of the scientific and technological revolution?

5. Give examples of countries that are leaders in the scientific and technological progress.

Task 3. Complete the sentences.

1. _____ important due to the transition from manual production to large-scale machine production.

2. The comprehensiveness of modern scientific and technological revolution _____ countries of the world and all geographic shells of the Earth, as well as outer space.

3. The explosion of the atomic bomb in Hiroshima in _____

4. _____ people are now involved, that is, more than 9/10 scientific workers who have ever lived on Earth are our contemporaries.

5. The main purpose _____ labor productivity.

6. In the conditions of scientific and technological revolution, the development of technique and technology _____

7. The second wave _____ microelectronic revolution, began in the 70s.

8. _____ associated with the appearance of microcomputers and microprocessors in the 70s.

9. The electronic industry largely _____ technological revolution.

10. We live in an era of "information explosion", when the volume of scientific _____.

Topic 10. The global problems of mankind

The study of this topic should begin with the study of the concept of global problems and the main causes of these problems. Important and main issues of global problems are: fuel and energy, raw materials, food, environment. It is necessary to study the characteristic problems of peace and disarmament, the demographic problem and the problem of development of the world oceans' resources. It is obligatory to get acquainted with the political problems of the modern world. When studying the topic, it is necessary to consider ways to solve the global problems of mankind. It is important to find out the role of geographical science in solving the global problems of mankind. A notable aspect of the study is international cooperation in solving the global human problems.

Practical work 20

Task 1. Read the text.

The global problems of mankind

Currently, the peoples of the world face many complex and important problems. These common problems are called global. These include: preventing the threat of world thermonuclear war and ensuring peace for all peoples;

bridging the gap in the level of socioeconomic development between developed and developing countries; bridging hunger, poverty and illiteracy; prevention of pollution; providing mankind with necessary vital resources: food, industrial raw materials, energy sources, etc.

Global problems are associated with uneven socioeconomic and scientific and technical development of countries and regions.

The solution of global problems requires the participation of all states and peoples. One state or one people cannot solve the global problems of all mankind:

- the problem of peace and disarmament;
- environmental issues;
- the demographic problem;
- the food problem;
- the energy and raw materials problem;
- the problem of using the oceans.

The problem of peace and disarmament. War always affects the development of society. In the second half of the 20th century, when nuclear weapons and rocketry were created, the threat of the destruction of entire countries and continents appeared. Now the main problem is the prevention of world war.

The environmental problem is the problem of the relationship between society and nature, the preservation of the environment. It exists in all countries of the world, because people's activities often negatively affect nature. For example: in the former times, forests covered 56 % of the entire land surface, and now they cover only 30 %. Deforestation leads to disruption of the water regime and air pollution. The process of forest destruction has greatly affected Europe, Russia, Canada, India and China.

Man pollutes nature with the waste of his activity, dusty and gaseous waste. In recent years, the danger of the destruction of the ozone layer has appeared. The first "ozone hole" was discovered over Antarctica in 1978. Now the "ozone hole" is increasing in size. The second similar "hole" was discovered over the Arctic.

Another important environmental problem is acid rain. It poisons the soil and water, destroys forests.

Environmental pollution is a change in the properties of environment as a result of human life. The source of pollution is the disposal of a large amount of waste that is generated in the production and consumption of human society.

Land pollution occurs as a result of irrational nature management during agricultural operations, disturbance of the land during construction and mining.

Water pollution occurs as a result of the discharge of sewage into rivers, lakes and seas. Pollution of the oceans occurs when oil and oil products enter the water. It is believed that 1/3 of the surface of the oceans is covered with an oil film.

Air pollution occurs as a result of fuel combustion.

Currently, environmental pollution has reached such a level that urgent measures need to be taken. Firstly, it is necessary to create treatment facilities, destroy and recycle garbage, build chimneys 200 – 300 and more meters high. Secondly, it is necessary to develop and apply "clean" production technologies.

Environmental pollution and irrational use of natural resources impedes the development of production and threatens the lives of people. Therefore, a mass movement of the public has begun, it is necessary to develop and apply "clean" production technologies.

Environmental pollution should be prevented to protect nature. Most economically developed countries and some developing countries have begun pursuing state environmental policies. Environmental laws were enacted, and state environmental authorities were created. But environmental policy requires the efforts of the entire global community. The UN system has a special program for protecting the environment. Scientists from different countries, including Ukraine, take part in this work.

The demographic problem. Demographic policy is social, economic, legal and other activities aiming to change the process of population reproduction. These include, for example, measures to encourage childbearing (benefits for childbirth, etc.) or to contain it. Of great concern is the natural increase in population in Asia, Africa and Latin America.

The world food problem in its most general form lies in the inability of mankind today to fully provide itself with vital food products in accordance with physiological norms, despite the fact that the planet's natural resources, combined with the modern economic, scientific and technical potential of the world community, allow this to be done. This problem appears in practice as absolute food shortages (malnutrition and hunger), as well as nutritional imbalances in various countries of the world. International food trade is very intensive. The volume of world exports of food products and raw materials for production of food is about \$500 billion per year. The main participants in the

international food trade are developed countries, primarily the USA, France, the Netherlands, and Germany. This group of countries accounts for about 60 % of world exports and imports. About a third of food purchases and sales are in Asia, Africa and Latin America. The share of post-socialist countries is insignificant and amounts to less than 5 %.

The energy problem is the problem of providing humanity with fuel and energy at the present time and in the foreseeable future. The main reason for the emergence of the global energy problem is the rapid growth in the consumption of mineral fuels in the 20th century. On the supply side, it is caused by the discovery and operation of huge oil and gas fields in Western Siberia, Alaska, on the shelf of the North Sea, and on the demand side, by an increase in the car park and an increase in the production of polymer materials. The increase in the extraction of fuel and energy resources entailed a serious deterioration in the environmental situation (expansion of open-pit mining, offshore production, etc.). And the growth in demand for these resources has intensified the competition between the countries-exporters of fuel resources for better terms of sale, and between the importing countries for access to energy resources.

The main reason for the emergence of the global *raw materials problem* is evidently the constant growth in the volume of mineral raw materials extracted from the bowels of the Earth, which especially accelerated in the second half of the 20th century. Suffice it to cite the data that only in the 1960 – 1980th 50 % of copper and zinc, 55 % of iron ore, 60 % of diamonds, 65 % of nickel, potassium salts and phosphorites and about 80 % of bauxite of the total volume of production had been extracted since the beginning of the century. As a result, the depletion of many basins and deposits began, the depletion of many used ores accelerated, and the amount of waste rock extracted from the bowels increased.

The problem of using the oceans. Humanity does not always intelligently use the natural resources of the oceans. In many areas, its biological resources are depleted. A significant part of the water area is contaminated with oil products.

Task 2. Answer the questions in writing.

1. What are the global issues?

2. What problems are related to them?

3. What global problems does all mankind solve in the modern world?

4. What are the environmental issues?

5. What relates to demographic issues?

6. What is the problem of using the oceans?

Task 3. Complete the following sentences.

1. Global issues are _____

2. _____ people have a big impact on nature.

3. All of humanity faces the following global challenges: _____

4. Now there is a threat of the destruction of entire countries and continents due to creation _____

5. An environmental problem is a relationship problem _____

6. In the former times, forests covered the entire surface of the land, and now only _____

7. In recent years, another environmental hazard has emerged – destruction _____

8. Another important environmental problem is _____ which poisons the soil and water, destroys forests.

9. Demographic policy is _____

10. A significant part of the water area is contaminated _____

Task 4. Prepare a presentation on the topic "Environmental problems of my country".

Task 5. Answer the review questions. State the reasons and give examples of environmental problems.

Recommended reading

Main

1. Бойко Н. А. Экономическая и социальная география : учеб. пособ. для иностранцев / Н. А. Бойко. – Киев : КНЭУ, 2002. – 239 с.
2. Витченко А. Н. География. Мировое хозяйство и глобальные проблемы человечества : учеб. пособ. для 11-го кл. учреждений общ. сред. образования с рус. яз. обучения / А. Н. Витченко. – Минск : Аверсэв, 2016. – 256 с.
3. Заставний Ф. Д. Географія України / Ф. Д. Заставний. – Львів : Світ, 1998. – 567 с.
4. Муромцева Ю. И. Основы социально-экономической географии : учебное пособие (для студентов-иностранцев подготовительных факультетов) / Ю. И. Муромцева, И. В. Вавилова. – Харків : ХНПУ ім. Г. С. Сковороди, 2012. – 60 с.
5. Экономическая и социальная география мира : учебное пособие для иностранных студентов подготовительных факультетов / О. Ф. Гудзенко, И. Б. Коваленко, М. В. Бык, В. Е. Дягилев. – Харьков : ХНУ им. В. Н. Каразина, 2005. – 122 с.

Additional

6. Ілюстрований атлас світу для школярів : науково-популярне видання ; пер. з англ. – Харків : Клуб Сімейного Дозвілля, 2012. – 80 с.
7. Малый атлас мира. – Киев : Картография, 2009. – 56 с.
8. Методические рекомендації к самостійній роботі по темі "Мировые природные ресурсы" учебной дисциплины "Экономическая и социальная география мира" для слухачів підготовчого відділення / сост. Н. А. Свиначенко. – Харьков : ХНЕУ ім. С. Кузнеця, 2015. – 104 с.
9. Свиначенко Н. А. Тексты и задания по учебной дисциплине "Экономическая и социальная география мира" для слухачів підготовчого відділення / Н. А. Свиначенко, А. А. Пастушенко. – Харьков : ХНЕУ ім. С. Кузнеця, 2014. – 128 с.

Information resources

10. Economic and social geography of the world [Electronic resource] : syllabus of the academic discipline for students of the preparatory department of all specialities / compiled by N. Shelkunova. – Kharkiv : S. Kuznets KhNUE, 2020. – 14 p. – Access mode : <http://repository.hneu.edu.ua/handle/123456789/25271>.
11. Shelkunova N. Lecture notes on social and economic geography of the world [Electronic resource] / N. Shelkunova. – Access mode : <https://pns.hneu.edu.ua/mod/resource/view.php?id=294918>.
12. Personal training systems / Site of Simon Kuznets Kharkiv National University of Economics. – Access mode : <https://pns.hneu.edu.ua/course/view.php?id=2454#section-0>.
13. Ukraine's Map and Satellite Image [Electronic resource]. – Access mode : <https://geology.com/world/ukraine-satellite-image.shtml>.

Contents

Вступ.....	3
Content module 1. Introduction. The modern political map of the world.	
The world's population	4
Topic 1. The introductory course.....	4
Topic 2. The modern political map of the world.....	11
Topic 3. The geography of the world's natural resources.	
Ecological problems. Interaction of society and nature	14
Topic 4. The geography of the world's population	17
Content module 2. The features of economic activity in different countries of the world.....	28
Topic 5. The geography of the world economy	28
Topic 6. National economy of Ukraine	34
Topic 7. The geography of division of labour.....	47
Topic 8. International economic integration.....	50
Topic 9. The scientific and technological revolution	52
Topic 10. The global problems of mankind	58
Recommended reading	63
Main.....	63
Additional.....	63
Information resources	64

НАВЧАЛЬНЕ ВИДАННЯ

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**Методичні рекомендації
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