

Issue 3

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Иновации в билингвалното обучение по биология

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В днешния информационен век откритията в биологията, прогресът на информационните технологии, глобализацията на икономиката и капитала, променят парадигмите на образованието.

На преден план се извежда личностното развитие на ученика, овладяването на различни стратегии за учене, изработване на индивидуален стил и индивидуална стратегия за самообразование със свои собствени техники, отвореност към индивидуално търсене за непрекъснато усъвършенстване на интелекта.

Проблемът е особено актуален и дава основание на иновирания се учител да насочи вниманието си и приложи в своята работа тези нови идеи и иновации, водещи до повишаване качеството и степента на подготвеност на младия човек, а това са : достатъчно изградени базови умения за работа в екип , езици , знания и интелект.

Иновациите в обучението показват на ученика не само как успешно да учи, но и да носи отговорността за своето собствено обучение.

В разработката се посочва как с използване на психологични открития :

- възможностите на мозъка
- новата теория за развитие на мозъка
- теорията за лъчистото мислене и информационните карти

се правят иновации в билингвалното обучение по биология. Засегнати са само експериментирани нови идеи и приложените иновации и интерактивни техники в билингвалното обучение в съвременното българско училище.

С прилагане на интерактивните техники (мозъчна атака, метод на асоциациите и изграждане на интелектуални карти) за първи път у нас се прави опит да се обучават ученици по биология на английски език чрез иновации за овладяване на биологичните понятия и знания.

Обект на изследване са 60 ученика от 8 клас на СОУ „Св. Климент Охридски“ г. Пловдив, профилирани паралелки „ биология с интензивно изучаване на английски език“.

Предмет на изследване е равнището на билингвално овладяване на биологични понятия и знания. Експериментът протича в естествени условия - класната стая и редовните учебни часове от седмичната програма на учениците от 8 клас.

Обектът на проучване е групата ученици като цяло и индивидуално - всеки ученик. С особено внимание се следяха тези от тях , които създаваха уникални интелектуални карти.

Извърши се диагностика на входно и изходно равнище за билингвално овладяване на биологичните понятия и знания. Разработиха се тестове отговарящи на 4 ; 5 и 6 познавателно равнище по Блум за усвояване на умения - анализ , синтез и оценка , изграждащи образователния минимум.

Използваха се :

- **мозъчната атака** за активиране на творчески потенциал на личността и групата.
- **метод на асоциациите** , основаващ се на естествената способност на мозъка да свързва постъпилата информация с вече приетата и преработената . От едно централно биологично понятие (напр. кости , мускули , човек и др.) за кратко време да се генерират няколко десетки асоциации. Зададеното ключово понятие предизвиква мозъчна атака , която отключва връзките

(асоциациите) в мозъка на базата на естественото

биологично лъчисто мислене на човешкия мозък и

може да се изгради мрежа от биологични понятия и

знания , наречена интелектуална карта.

- **изграждане на интелектуални карти** - използваха се за проверка на компетенциите на учениците , за развитие на творческото уникално мислене, за създаване на увереност и откриване на пропуски в биологичните знания от 8 клас.

Интелектуалните се използваха от учениците за

самопроверка , за решаване на поставен проблем , за

откриване на взаимовръзки , за припомняне , за

запаметяване на биологични понятия на английски език ,

за сравняване на вижданията си при тяхното изграждане.

Методът отчита физиологичната основа на ученето и

дава възможност на младия човек да провери сам себе си. Той разкрива неговите умения , опит , култура и широта в билингвалното биологично познание . Показва неговият на чин на мислене - теоретично или абстрактно. При този метод ученикът се чувства освободен и затова успява да се състезава сам със себе си.

Създаването и използването на интелектуалните карти

дава възможност на учениците да обобщават учебната информация. Ако те сами създават критерии за изграждане на интелектуални карти , то те стават подходящи за оценяване , особено ако чрез тях учениците откриват взаимовръзки между отделни биологични понятия и изказват евристични идеи.

Оказа се че интелектуалната карта не е за показ , а е за улеснение на ученето, мисленето и запаметяването. Ученикът придобива богат опит от знания и умения , когато трябва да извлича информация от паметта си при творчески процеси , свързани с вземане на решения . Това е готовността на младия човек успешно да отговори на съвременните образователни изисквания и да влезе в академичната среда.

С помощта на посочените нововъведения и анализ въз основа на получените данни от експеримента се направиха надеждни изводи за :

- информационната карта има евристична стойност
 - развитие на творческото уникално мислене на ученика чрез изграждане на интелектуални карти
 - откриване на пропуски в знанията на ученика
 - самопроверка и откриване на нови взаимовръзки при изграждане на интелектуалните карти
 - от индивидуалните асоциации може да се правят изводи за интелекта на ученика.
-
- осмисляне на индивидуална стратегия за овладяване на биологични понятия на английски език и знания по биология
 - умения на ученика да се интегрира в различни учебни ситуации в бъдеще

Innovations in the bilingual education in biology

In the age of information the discoveries in biology, the progress of informational technology and the globalization of economics have changed the paradigms of education.

The focus is on the personal development of the student, the mastering of various studying strategies, the working out of individual style and strategy of self-education with his own techniques, and the readiness for individual search for knowledge.

The innovations in education show the student not only how to study successfully, but also how to be responsible for his own education.

This report shows how the usage of psychological inventions help with the innovations in bilingual education in biology.

With the application of interactive techniques (brainstorming, method of association, content analysis and mind mapping) for the first time in Bulgaria an effort to use English as a language of instruction in Biology by means of innovations in order to obtain biological terms and knowledge is made.

Through the applied innovations and the analysis of the experiment data promising conclusions have been made.

GRAPHIC MODELS AND TEACHING HISTORY IN ENGLISH AS A FOREIGN LANGUAGE

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The various types of graphic models have already proved their effectiveness in the educational process. They take a special place in history teaching because of the specificity of the historical knowledge (4; 5). One of the main roles they have is to make the information accessible to the students. They are very useful in teaching foreign languages: visual methods of teaching produce better results than those which depend exclusively upon language (1; p. 6). Presenting the information in visual forms assists the learners to acquire it easily. But their role grows up still more in the history teaching in foreign languages. This complicated didactic process needs facilitating the communication between the teacher and the students. Set in many combinations the graphic models successfully play this function. This article is an attempt to help the teachers' classroom work in history and especially in building the students' historical vocabulary.

The graphic models used in history are classified in four groups: graphic maps /not colored/ and plans; different types of diagrams /graphs, charts etc./; structural models /schemes of structures/; and art graphic figures.

One of the main difficulties in studying history in foreign languages is connected with the old names of towns, states and other historical and geographical places. Many of them are not in existence now or their names have been changed. Most of these names are difficult to pronounce and can not be found in the ordinary dictionaries, used usually by the students. Very appropriate in these cases are the outline maps, where the objects are only marked by signs. The students' task is to label them on the map. For this purpose the teacher has to prepare a list of the names with their writing forms and transcription, and to write them on the blackboard. The students have to choose the corresponding name and to label it on their copies of the map (**fig. 1**). This is an elementary example used very often in the history classroom work, but here, the new moment is the prepared in advance list of unknown and difficult historical names, which students cannot do by themselves.

An example of using graphic models from the next group is the following: draw a diagram /bar graph/ indicating the number of the years during which the kings ruled (**fig. 2**). Each bar shows how many years each king ruled. On the blackboard, as in the first case, the teacher has to write again the kings' names and their transcription, of course, in free order /not in succession/. Students have the task to find the corresponding names and to fit them with the bars. So they will easily remember the names and will learn how to write them correctly.

Another version of this task with a similar content has to do with using a time-line, which belongs to the structural graphic models. It has to be divided into sections, each one indicating the time of the king's ruling (**fig. 3**). Students have to write the kings' names in the boxes or at the suitable place. Successful practice for learning how to write and how to pronounce the names of historical persons is the drawing of family trees or a chronological table – also types of structural models. In the boxes the students have to fill in the names of members of the king's family (**fig. 4**) or the kings' names (**fig. 5**), written in advance on the blackboard as it is noted above.

Other structural graphic models, very suitable for learning special terms and concepts are connected with the state political systems. This can be done by comparing similar institutions in different countries as for example is the structural scheme on **fig. 6**. By analyzing the scheme the students understand that the ruler's titles are different in different countries. In England, France and Spain they are called "king", in Austria – "emperor", in Russia – "tzar", in Turkey – "sultan". It is the same with some collective institutions of state government. In England it is "the Parliament", in France – "Estates General", in Spain – "Cortes", in Russia – "Senate", in Turkey – "Divan". So the students will be able to learn these specific terms and to differ them in the different European countries, when they are studying about that period. The teacher can also use many other similar forms and versions in the history classroom.

In regard to the last group of the so called "Art graphic models" the possibilities are so large that we will show two examples only (*see* for details about that 2). If, for instance, the teacher wants to acquaint the students with the architectural styles in Ancient Greece and with some of their elements, he or she can use for this purpose such graphic figures as on **fig. 7**. The students can be even introduced in details to the Greek art. The drawings on **fig. 8** show another similar example. Like in the previous tasks the specific names and terms with their transcription have to be written separately on the blackboard or on special working sheets and after that, they have to be matched with the drawings.

The utility of using graphic models in teaching history in English as a foreign language is obvious. The information being presented simultaneously in two forms – written and graphic, and perceived actively by visual and practical (by writing words) ways stays sound in the students' memory. As a conclusion, we are convinced that the applying graphic models in history teaching in English at school, combined with the teacher's mastery and other methods of work in the classroom will improve the learning process and will increase its effectiveness.

References:

1. **Dubrovin, M. I.** 1991. Situational Grammar. Sofia. Prosveta.
2. **Himpel, G.** and others. 1962. Tafelbilder im Geschichtsunterricht Volk und Wissen Volkseigener Verlag. Berlin.
3. **Jone, D.** 1987. Everyman's English Pronouncing Dictionary. Sofia. Nauka I Izkustvo.
4. **Paev, K.** 1996. Grafichni modeli v didaktikata na istoriata. [Graphic models in Didactics of History]. – Istorija, N 3/4, s. 41-48.
5. **Paev, K.** 1999. Eksperimentalni nabljudenia varhu prilozhenieto na njakoi grafichno-uslovni modeli v uchebnata rabota po istoria. [Experimental observations upon the using some graphic models in the classroom work in history]. – Godishnik na Istoricheskia fakultet na Jugozapadnia Universitet 1995\1996. Blagoevgrad, s. 51-74.
6. **Rivkin, B.** 1983. Antichno Izkustvo. [The Art of Antiquity]. Sofia. Nauka i izkustvo.
7. **Wells, D.** (Missing year). Bilingual Learners and Secondary History. Hounslow. Hounslow Language Service.

Figure 1. Rome conquers Italy

(Source: 7; Activity 4)

Label on the map of Italy:

1. *Rome* []; *Veii* []; *Brindisi* []; *Sicily* []; *Syracuse* [];
River Tiber []; *The Apennine Mountains* []; *The Alps* [];
The Appian way []; *The Mediterranean Sea* []; *The Adriatic Sea* [].
2. The tribes: *Etruscans* []; *Umbrians* []; *Sabines* [];
Samnites []; *Greeks* []; *Latins* [].

Figure 1. Rome conquers Italy

(Source: 7: Activity 4)

Label on the map of Italy:

1. Rome [ˈrəʊm], Veii [ˈveɪ], Brindisi [ˈbrɪndɪzi], Sicily [ˈsɪsɪli], Syracuse [ˈsaɪərəkjʊz],
 River Tiber [ˈrɪvə ˈtaɪbə], The Apennine Mountains [əˈpɪniən ˈmaʊntɪnz], The Alps [ˈælpz],
 The Appian way [əˈpiən weɪ], The Mediterranean Sea [ˌmedɪtəˈreɪniən siː], The Adriatic Sea
 [əˈdriːətɪk siː].

2. The tribes: Etruscans [ɪˈtrʌskənz], Umbrians [ˈʌmbriənz], Sabines [ˈsæbɪnz],
 Samnites [ˈsæmnaɪts], Greeks [ɡriːks], Latins [ˈlætɪnz].



Figure 2. How many years the Tudor kings ruled

Write the king's names at the appropriate bars:

Edward VI (1547-1553); Mary I (1553-1558); Henry VIII (1509-1547); Elizabeth I (1558-1603);

[] [] [] [] []; Henry VII.

Figure 2. How many years the Tudor kings ruled

Write the king's name at the appropriate bars:

Edward VI (1547-1553); *Mary I* (1553-1558); *Henry VIII* (1509-1547); *Elizabeth I* (1558-1603);
 [ˈɛdwəd] [ˈmɛəri] [ˈhɛnri] [ˈɛlɪzəbɪθ]; *Henry VII*
 (1485-1509).

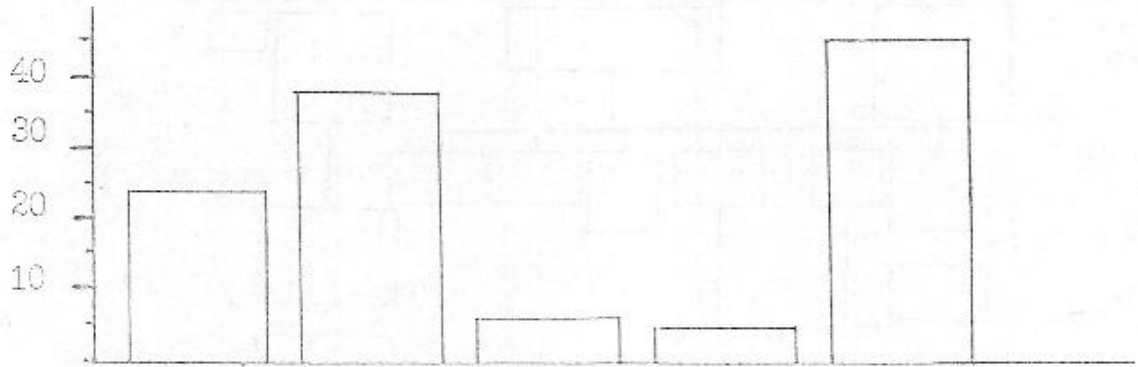


Figure 3. How long time the Tudor kings ruled

Write the kings names at the appropriate section of the time-line.

Figure 3. How long time the Tudor kings ruled

Write the king's name at the appropriate section of the time-line.

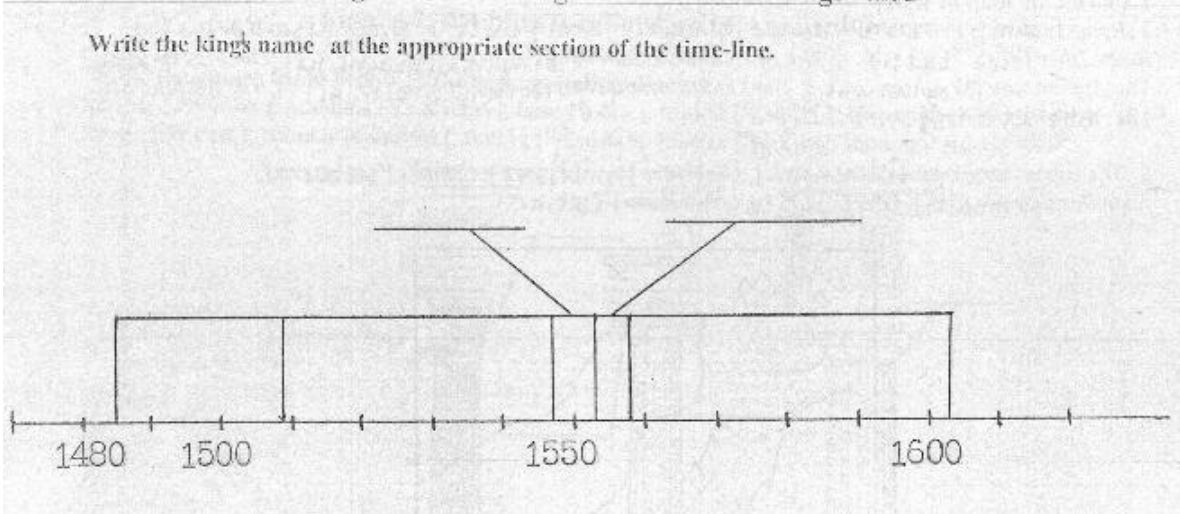


Figure 4. Tudor Family Tree

(Source: 7; Activity 16)

Write the names of the members of Tudor family listed below in the appropriate boxes:

Henry VII []; Elizabeth of York []; Henry VIII; Arthur []; Catherine of Aragon []; Anne Boleyn []; Mary I []; James IV of Scotland []; Jane Seymour []; Anne of Cleves []; Catherine Howard []; Catherine Parr []; James V of Scotland []; Mary of Guise []; Elizabeth I; Edward VI; Mary Queen of Scots [].

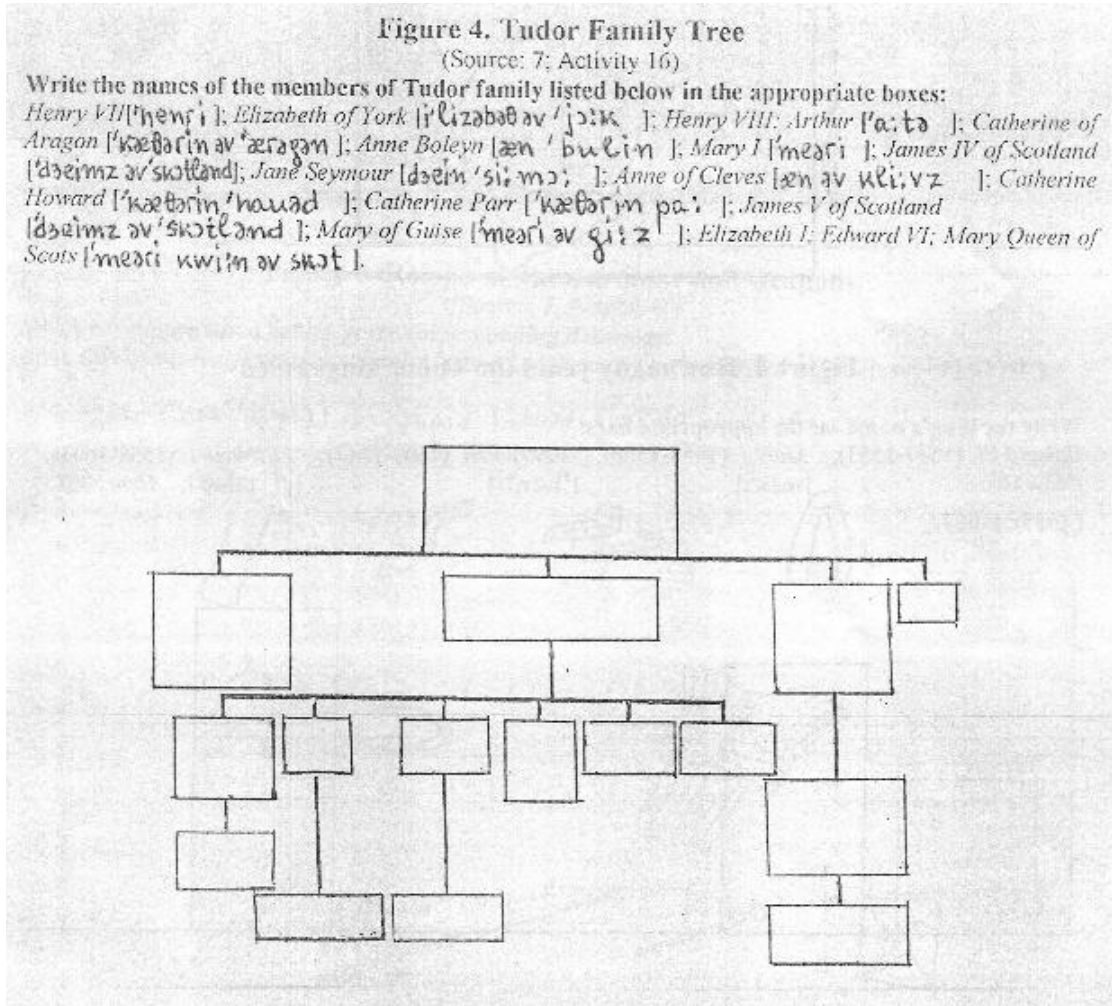


Figure 5. Tudor kings

Write the names of the Tudor kings in the boxes by the indicated years.

Figure 5. Tudor kings

Write the names of the Tudor kings in the boxes by the indicated years.

Edward VI;

Mary I;

Henry VIII; 1558 - 1603

Elizabeth I; 1553 - 1558

Henry VII. 1547 - 1553

1509 - 1547

1485 - 1509

Figure 6. Rulers' titles and institutions of government of some European countries during XVI-XVII centuries.

Fill in the following table:

1. Titles: *king* []; *tzar* []; *emperor* []; *sultan* [].
2. Governmental institutions: *Parliament* []; *Estate General* []; *Corte* []; *Senate* []; *Divan* [].

Country	England	France	Spain	Austria	Russia	Turkey
Rulers' titles						
Institutions						

Figure 7. Architectural orders in Ancient Greece

(Source: 6; p. 58)

Write the names listed below at the corresponding places:

abacus []; acanthus []; base []; capital []; Corinthian [];

Doric []; echinus []; fluting []; helix []; Ionic [].

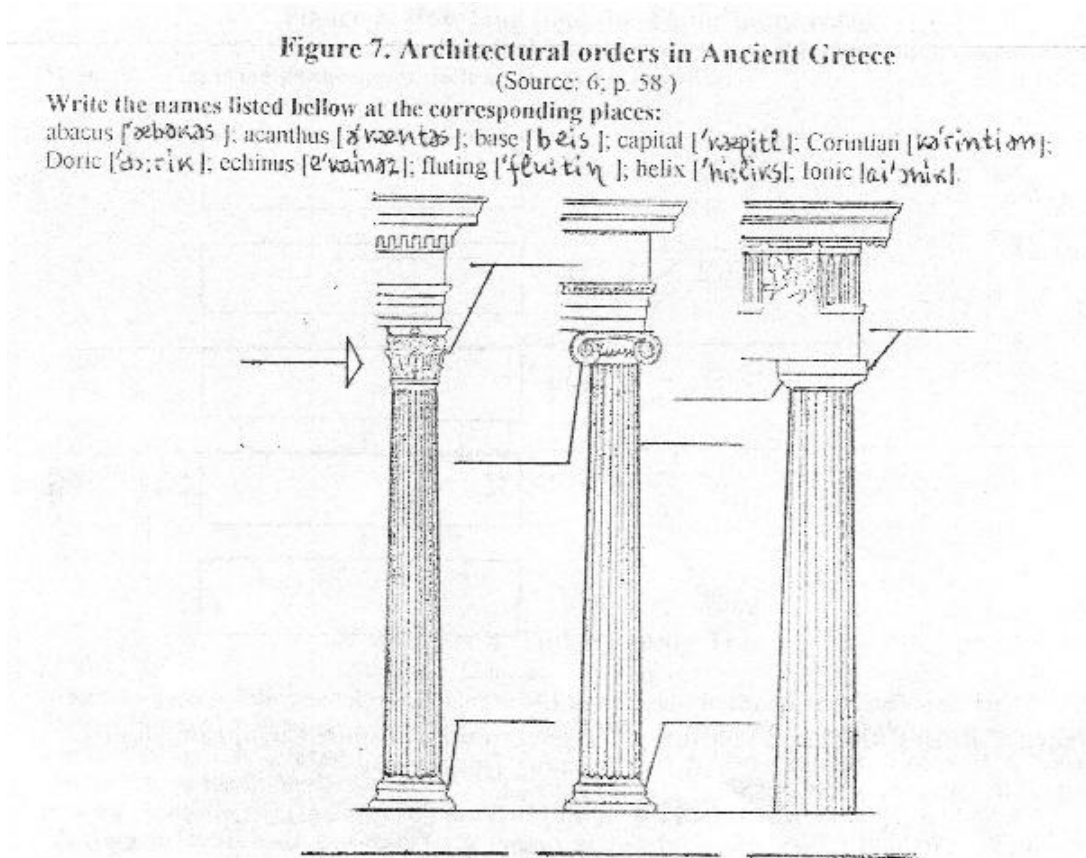


Figure 8. Roman clothes, armor and weapons.

(Source: 7, Activity 6)

Write the names listed below at the corresponding drawings:

tunic []; scarf []; sandals []; helmet []; belt []; sword []; body armour []; spear []; shield []; cloak [].

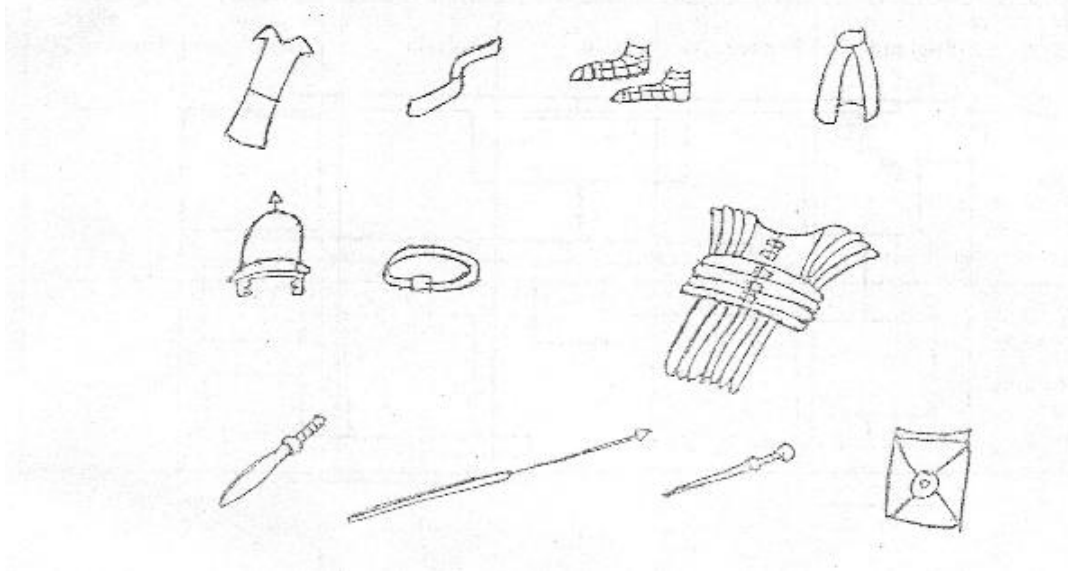
Figure 8. Roman clothes, armour and weapons.

(Source: 7, Activity 6)

Write the names listed below at the corresponding drawings:

tunic [ˈtʃuːnɪk]; scarf [ˈskɑːf]; sandals [ˈsændl̩z]; helmet [ˈhelɪmt]; belt [bɛlt]; sword [sɔːd]

body armour [ˈbɔːdiˈɑːmə]; spear [spiə]; shield [ʃiːld]; cloak [ˈclɔːk].



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NATIONAL ECONOMY - TEST № 3 FOR 10th CLASS GROUP A

1.Fill in the blanks:

..... is the system of all branches of the economy/extractive, processing and servicing/ of a country.

The total value of the production of goods and services in a nation measured over a year is termed

When the industry makes up 50% of the national income that means the economy of this countries has structure. It's typical for countries such as.....

As a result of the deepening of the division of labor one reaches the formation of..... and production . 2.Match the branches and activities

- A - primary sector (extractive) a)-timber industry
- B - secondary sector (processing) b)-chemical industry
- C - tertiary sector (service) c)-textile industry
- d)-finances

e)-coal-mining

f)-culture

g)-metallurgy

3.Which of the following characteristics are referred to the large-scale industry ?

a - characterize by the non-durability of manufactured products

b - requires heavy capital investment in plants and machinery

c - the labor force is low skilled

d - has a complex industrial organization and serves other manufacturing industries

4. Arrange the following activities in an order appropriate for the characterization of the economy branch.

a - determining factors for development and geographical distribution of the branch

b - revealing essence , significance and peculiarities of the branch

c - determining place of the branch in the national economy

d - revealing problems and trends of the branch development

e - characterization of the branch and territorial structure

5. Match the brunches with their descriptions

A - Energetics(power generation) 1-it produces the basic means of production used

B - Metallurgy for the technical renovation of all branches of the economy

C - Engineering(machine building) 2-its production must be consumed as it is produced

D-Chemical industry 3-the raw materials are bulky and heavy and it has

E- Textile industry been estimated that the cost of their transportation

F- Food and beverage industry represents approximately 40% of the price of the

E- Textile industry finished products

F- Food and beverage industry 4-it provides new high-quality raw materials and this

allows for more economical and effective utilisation

of natural resources

5-it has many sub-branches and uses agricultural raw

materials

6-its products are essential and it has played an

important part in the development of the manufacturing in

the developing countries

6.Fill in the table

Industrial raw materials finished countries

branches products

ferrous

metallurgy

non - organic

synthesis

7.What are the tendencies observed in the change of the energy balance in the world and what are the reasons for them?

8.Draw in outline the production cycle in the textile industry.

9.What is the difference between intensive and extensive agriculture?

10. Match the agricultural branches with the characteristics.

A Crop farming

B Livestock farming

a - it has no seasonal character

b - it is influenced to a greater extent by natural phenomena

c - in the last year in a lot of countries it has industrial character

d - it provides fodder and raw materials for the light and food industry

11. Which are the main cereals ?Indicate the most important cereal regions of the world and the major producers?

12.Compare railway transport and road transport with respect to their effectiveness.

13.Which are the main forms of the national cooperation between the countries?

14.What is the place of the tertiary sector in the system of the national economy?

How can you explain their constantly growing importance?

NATIONAL ECONOMY - TEST № 3 FOR 10th CLASS GROUP B

1 Fill in the blanks:

..... is a unity of the economies of all countries all the world over .

The value of the flow of goods and services become available to a nation when one takes the total expenditure on consumer goods and on investment goods (raw materials, amortization of machines and tools) from GNP during a given period, usually one year is termed

The distribution of the economic branches on the territory of an individual country or regions determines of its economy.

When the agriculture of the country makes up 50% of the national income that means the economy of this country has structure. It is typical for countries, such as..... .

2 Match the branches and activities with sectors of the national economy.

A-Primary sector(extractive) a-petroleum and natural gas extraction

B-Secondary sector (processing) b-food and beverage industry

C-Tertiary sector (service) c-agriculture

d-wood processing

e-hunting and fishing

f-machine engineering

g-education

3 Which of the following characteristics are referred to the small-scale industry?

a-serves a large and diverse market including other manufacturing industries

b-it may involve nonstandard products such as customized or craft-work

c-requires small capital investment in plants and equipment

d-generates a large volume of output

4 Arrange the stages of the social division of labor in order of their development

a-the separation of agriculture from handicrafts

b-the separation of trade as an independent economic branch

c-the separation of stock-breeding from agriculture

d-the separation of manufacturing industry

5 Match the branches with their descriptions

A-Energetics(power generation) 1-it accounts for 1/3 of the industrial production of the world

B-Metallurgy. 2-all stages of processing raw materials are highly

C-Engineering(machine building) mechanized,but a large labor force-mainly female is

D-Chemical industry necessary to supervise operations

E-Textile industry 3-its production is environment friendly and requires no

F-Food and beverage industry storage facilities

4-it produces consumer goods which can be preserved

for long

5-at the technological process a lot of technological

water and electrical energy is used

6-it produces raw materials which are the basis for

developing machine building, metal

Fill in the table

Industrial Raw material Production Countries

branch

Non-ferrous

metallurgy

Organic

synthesis

7 Which sub-branches of machine engineering develop most dynamically and why?

8 Draw in outline production in the energy-producing industry.

9 What is the difference between manageable and arable land?

10 Match the agricultural branches with characteristics.

a) from less raw materials much more

production is obtained.

b) its development depends on the availability of

A-Crop farming fodder and on pastures

c) its production has greater share in agriculture of

B-Livestock farming developed countries

d) it has a seasonal character and is closely related

to the natural conditions

11 Which are the main industrial crops? Indicate the most important regions of the world and the major producers.

12 Compare water transport and air transport with respect to their effectiveness.

13 Which are forms of foreign economic links?

14 What peculiarity is there in the territorial distribution of the service branches? Compare with processing branches.

CHEMISTRY DOMINOES

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(To my mother who used to help me
with my chemistry lessons
when I was a student)

Dominoes is a popular game which could be used in class. Here I have tried to develop the idea of how this game might be applied in chemistry classes to practice students' knowledge of metathesis reactions. For that purpose there are two ions instead of dots on each domino. Students' task is to arrange the dominoes in such a way that neighboring ions from succeeding dominoes should represent the qualitative composition of a substance. As the game goes, students write the formulae of the substances on a separate sheet of paper, paying a special attention to the quantitative ratios in them. For a correctly written soluble substance, the player gets one point. For a correctly written insoluble substance (precipitate or gas) the player gets two points. Wrong or incomplete representations do not bring points. The winner, of course, is the person with the highest score.

To play the game, a set of dominoes should be given to each pair or group of students. All participants draw a certain number of dominoes, depending on how large the team is, and how much time the teacher is willing to devote to the game. The first domino to be laid down is the darkly shaded one $[H^+/OH^-]$. The game proceeds in the usual way and finishes when one of the players has laid down their last domino. Playing may continue until their time limit is over.

As a follow up, students might be asked to illustrate the formation of each substance on their lists, writing down the equation of an example reaction or give any further information about them.

Acknowledgement: I saw this kind of exercise in "Grammar Games" by Mario Rinvolucri, CUP 1988, page 42, where it was used for practicing word formation.