МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
ТЕХНОЛОГО-ЕКОНОМІЧНИЙ КОЛЕДЖ БІЛОЦЕРКІВСЬКОГО
НАЦІОНАЛЬНОГО АГРАРНОГО УНІВЕРСИТЕТУ

Іноземна мова за професійним спрямуванням (англійська мова)

методичні матеріали для організації практичних занять з дисципліни
для студентів спеціальності
5.05170111 «Зберігання, консервування та переробка молока»

КОНКУРС «Педагогічні інновації»
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Методичні матеріали з навчальної дисципліни *Іноземна мова (англійська мова) за професійним спрямуванням* **«Англійська мова для студентів-технологів»** — *спеціальність 5.05170111 «Зберігання, консервування та переробка молока»* — призначені для методичного забезпечення вищевказаної дисципліни для студентів III-IV курсів вищих навчальних закладів 1-2 рівнів акредитації. Мають професійно-спрямований характер, чия тематика відповідає новій Навчальній програмі з дисципліни (2012) і представляють IV – Професійно-спрямований блок Навчальної програми. Професійно-орієнтований блок містить тематично підібрані тексти (з 18 тем) професійного і загальнонаукового спрямування, тематичний словник і терміни, вправи, вікторини, кросворди, ідіоматичні вирази з назвами харчових продуктів.

Спрямовані на формування умінь і навичок в усіх видах мовленнєвої діяльності (читання, говоріння, аудіювання, письмо, переклад) з англійської мови за професійним спрямуванням, а також — на розвиток і поглиблення пізнавальних і професійних інтересів, розширення світогляду про обрану професію та країну, мова якої вивчається. Містять гіперпосилання на англомовні аудіосайти. Можна використовувати для аудиторної, заочної форм навчання, а також для самостійного вивчення навчальної дисципліни, містить тести і контрольні питання, вказівки на міжпредметні зв'язки (CLILs).

ЗМІСТ
CONTENT

ВСТУП

INTRODUCTION

Укладання методичних матеріалів викликані змінами до Навчальної програми з іноземної мови для професійного спрямування (2012) для студентів спеціальності «Зберігання, переробка та консервування молока» та відсутністю чи недостатністю підручників, як вітчизняних, так і зарубіжних авторів, які спеціалізуються в укладанні навчальних посібників в сфері англійської мови за професійним спрямуванням для різних професій (ESP). Існуючі посібники є або застарілими, або в неповній мірі (наприклад, Agriculture, Cooking, Food Industries британського видавництва Express Publishing) покривають обсяг Навчальної програми, або є занадто дорогими.

При укладанні цих методичних матеріалів використовувались сучасні методичні терміни, які стосуються структури заняття і подання навчального матеріалу (CLILs, key words, vocabulary practice, practice stage), що може стати зручним при написанні планів заняття. Кожна тема починається позначкою CLILs, яка вказує на міжпредметні зв'язки.

Зверталась увага на розвиток не тільки лексичних умінь і навичок з обраної спеціальності, а і на розвиток діалогічного мовлення, говоріння у сфері виробництва, у щоденному спілкуванні.

Методичні матеріали завершуються ідіоматичними виразами, які містять назви різних видів їжі, у тому числі молочної продукції, і дають змогу збагатити словниковий запас студентів. Кожен ідіоматичний вираз (food idiom) пояснюється англійської мовою і супроводжується прикладом, щоб ознайомитися з його вживанням у контексті. В кінці подається коротка вікторина на знання певних ідіоматичних виразів, що дає змогу перевірити набуті лексичні знання. Збірка ідіоматичних виразів може використовуватись на будь якому аудиторному занятті професійного блоку Навчальної програми, а також у гуртковій роботі.

Методичні матеріали рекомендовано для студентів 3-4 курсів спеціальності 5.05170111 "Зберігання, консервування та переробка молока" вищих навчальних закладів I-II рівнів акредитації.

Тема: **MY FUTURE SPECIALTY**

CLILs: training practice, technology of milk and dairy products.

Warm-up

1. Answer these questions.

1. How many professions are there in the world?
2. What is the name of your profession / specialty?

Vocabulary Practice

2. Learn the following words and word-combinations.

a lab-assistant	лаборант
a technician-technologist	технік-технолог
a food technologist	технолог харчового виробництва
food technology	харчова технологія
processing	переробка
canning	консервування
preservation	зберігання
milk	молоко; молочний
evaporated milk	згущене молоко
a dairy-processing plant	молочно-переробний завод
dairy	молочний
dairy (milk) products	молочні продукти
to produce	виготовляти; виробляти
manufacture	виготовлення
to continue	продовжувати
cheese	сир
ice-cream	морозиво
radio ecological	радіоекологічний
butter	масло
standard	стандарт

3. Read and translate these word combinations into Ukrainian.

a. to work as a lab-assistant; to work as a food technologist; to work at a dairy processing plant;

b. a technician-technologist of milk products; dairy products; to produce milk products;

c. cheese manufacture, butter manufacture, ice-cream manufacture;

d. to continue studies; to learn about; to study at.

Reading

4. Read the text "My Profession".

MY PROFESSION

My specialty is preservation, canning and processing of milk. My future profession can be a technician-technologist of milk products. People drink milk for more than 4000 or 5000 years. I can work at a dairy processing plant. I can also work as a lab-assistant in the chemical, bacteriological or radio ecological laboratory.

Technicians-technologists of milk products study how to produce different dairy products: cheese, ice-cream, butter, yogurt, riazhanka, pasteurized milk, evaporated milk and kefir. We will study ice-cream manufacture, cheese making and butter making. We will also learn about the standards for different dairy products. I would like to continue my studies at Kyiv National University of Food Technologies.

So, my future profession is very necessary, because people eat and drink milk products practically every day. The favourite milk product is, of course, ice-cream. Do you like ice-cream?

While-Reading

5. Match a name to the paragraph.

Why is my profession necessary?	Paragraph 1
What do we study about mil products?	Paragraph 2
Where can we work?	Paragraph 3

Practice Stage

6. Work in pairs. Answer the questions.

1. What is your specialty?
2. What is the name of your future profession?
3. Where can technicians-technologists of milk products work?
4. People drink milk for more than 4000 old, don't they?
5. What kinds of milk products do technicians-technologists study to produce?
6. What is your favourite milk product?
7. Would you like to continue your studies at the University?

7. In the text "My Profession" find the English equivalents of the following word combinations and sentences.

1. Моя спеціальність.
2. Технік-технолог по виробництву молочних продуктів.
3. Виготовляти різні молочні продукти.

4. Працювати лаборантом.
5. Хімічна лабораторія.
6. Бактеріологічна лабораторія.
7. Виробництво морозива.
8. Виготовлення сиру.
9. Улюблений молочний продукт.
10. Люди п'ють молоко близько 4000-5000 років.
11. Дізнаватися про стандарти на різні молочні продукти.
12. Я хотів би продовжити навчання в Університеті харчових технологій у Києві.

Speaking

8. **A.** *The names of dairy products are necessary when we do shopping. Read the dialogue "At the Supermarket". What dairy (milk) foods are mentioned there?*

At the Supermarket

Louise: Hey, Julia… Look at those desserts! How about baking some cookies today?

Julia: Hmm… Yeah, that's a great idea! While we're here, let's pick up the ingredients.

Louise: Oh, what do we need?

Julia: The recipe calls for flour, sugar and butter. Oh, and we also need eggs and chocolate chips.

Louise: Why don't you get the *dairy* ingredients? You'll find these in the refrigerated section in the back of the store. I'll get the other ingredients — they're in aisle 10.

Julia: Great! Let's meet at the checkout.

Louise: OK. See you there.

(*From:* https://share.america.gov)

P.S. You can listen to this dialogue using the e-address.

B.  *Words and phrases:*

The recipe calls for… — We need…
dairy — milk
store — shop
aisle — прохід
checkout — каса

C. *Learn and reproduce the dialogue "At the Supermarket".*

Тема: **NUTRITION**

CLILs: biology, chemistry, organic chemistry.

Warm-up

1. Answer the questions.

1. Do people in Ukraine eat the same foods as in Britain or the USA?
2. What does food give to people?
3. Can we live without food?
4. Can we live without water?

Reading

2. Read the text "Nutrition: Some Definitions."

NUTRITION: SOME DEFINITIONS

1 The foods that people eat in other countries are very different from our own. The majority of people grows well and stays healthy when they get enough to eat. There are some ways in which we can estimate the value of any diet. They form a part of the science of nutrition. It is important to know the principles of this science because our future profession is to provide meals.

2 But first, there are some terms. The science of nutrition is the study of all processes of growth, maintenance and repair of the living body, which depend upon the digestion of food. Food is any solid or liquid which can supply material from which the body can produce movement, heat or other forms of energy and material for growth, repair and reproduction. The components of foods which have these functions are called nutrients.

3 Carbohydrates provide the body with energy and may change into body fat. Fats also provide energy but in a more concentrated form and they can form body fat. Proteins provide amino acids for growth and repair. Minerals help to regulate body processes and are used in growth and repair. The living body needs vitamins to regulate its processes.

4 The diet consists of the foods or mixtures which person eats every day. The health of any person depends upon the absorption of necessary amounts of energy and all the nutrients. Energy is the ability to do work and to keep up body temperature, breathing and other processes.

Follow-up

3. Which paragraph in the text "Nutrition: Some Definitions" gives the definition of nutrition as a science?

4. TEST Decide whether the following statements are true or false.

1. Getting enough food is one of the main causes to be healthy and to grow well. T/F
2. The foods that people eat in other countries are not very different from the foods that people eat in our country. T/F
3. The science of nutrition studies all the processes of growth, maintenance and repair of the living body. T/F
4. Food can be both solid and liquid. T/F
5. Vitamins and minerals don't belong to nutrients. T/F
6. Carbohydrates may not change into body fat. T/F
7. Minerals and proteins are used in growth and repair in the living body. T/F
8. The foods or mixtures which person eats every day is called the diet. T/F
9. Energy is the process to do work and to keep up body temperature. T/F

Speaking / *CONTROL QUESTIONS*

5. Answer the questions to the text "Nutrition: Some Definitions".

1. Which definitions does the text "Nutrition: Some Definitions" give?
2. What is food?
3. What types of nutrients are there in foods?
4. What do carbohydrates provide the body with?
5. Proteins provide amino acids for growth and repair, don't they?
6. What is energy?
7. Does the living body need vitamins to regulate its processes?

Reading / Transalting

6. **A** *When we speak about different foods we often use the term 'calorie'. What is '**calorie**'? Read and translate this information.*

Calorie is a unit to measure the energy of food and the intake and use of energy by the body. The scientific definition of 1 calorie is the amount of heat

required to raise the temperature of 1 gram of water by 1 degree Centigrade. This is a very small amount, so we often use the term kilocalories (abbreviated to kcal), which is equivalent to 1000 calories. Energy values can also be measured in kilojoules (kJ): I kcal = 4.2 kJ.

A person's energy (calorie) requirement varies depending on his or her age, sex and level of activity. The estimated average daily requirements are:

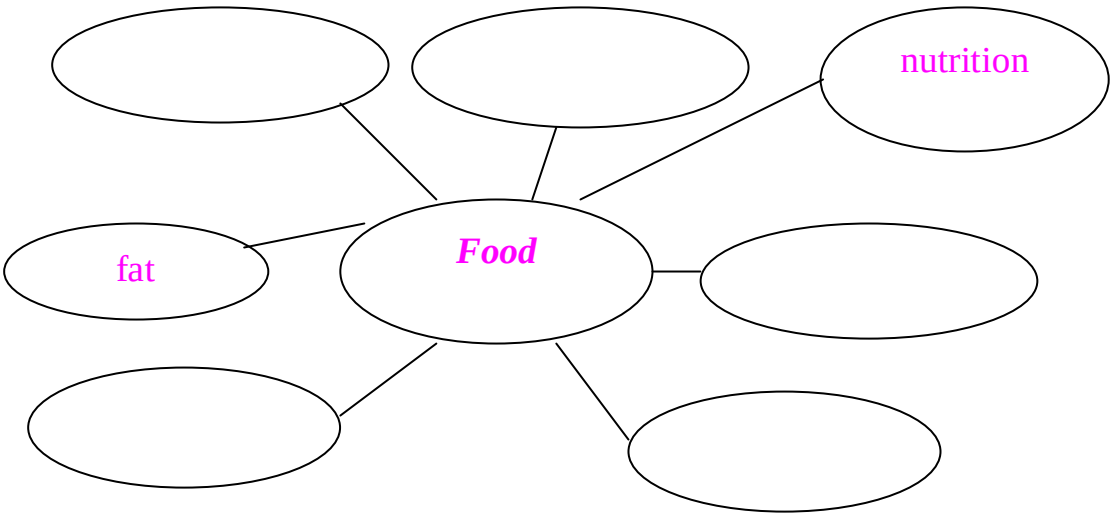
Age (years)	**Female** (kcal)	**Male** (kcal)
1-3	1165	1230
4-6	1545	1715
7-10	1740	1970
11-14	1845	2220
15-18	2110	2755
19-49	1940	2550
50-59	1900	2380
60-64	1900	2380
65-74	1900	2330

B *Using the table above find and write the recommended daily energy for your age.*

I am _____ years old.

I need _____ kcal a day.

7. What does food give the living body, to people? Fill in the suitable words.



Writing

8. Review the text "Nutrition: Some Definitions."

The text "Nutrition: Some Definitions" tells about …… . The following definitions as …… are considered in the text.

Vocabulary Practice

9. Read and learn the following key words — they are terms.

nutrition	харчування; живлення
nutrient	поживна речовина
science of nutrition	дієтетика; наука про харчування
nutritional	поживний, живильний
carbohydrate	вуглевод
protein	білок, протеїн
fat	жир
vitamin	вітамін
mineral	мінерал
energy	енаргія
diet	дієта, харчування
amino acid	аміно кислота

10. Learn the following key words and word combinations.

food	1. харчі, харчування, їжа; 2. продукти харчування
mixture	суміш
different	різний; інший
activity	діяльність
majority	більшість
ability	здатність
to estimate	оцінювати
value	цінність; важливість
to provide	забезпечувати
to provide meals	надавати харчування
to grow/ growth	рости / зростання; розвиток
maintenance	утримання, зберігання, підтримання
to depend (on)	залежати (від)
to supply	постачати
to produce	виробляти
movement	рух
heat	теплота
to absorb	абсорбувати; поглинати
to form	формувати; складати
principle	принцип; закон
term	термін
body	тіло; організм
repair	відновлення
solid	твердий
liquid	рідина; рідкий
reproduction	репродукція; відтворення
component	компонент
to consist of	складатися з
requirement	вимога; потреба
maintenance	підтримка

Тема: **WATER. CONSTITUENTS OF FOOD**

CLILs: chemistry, organic chemistry.

Warm-up

1. Answer these questions.

1. Do you drink a lot of water every day?
2. What is your favourite drink?
3. What does water give to people?

Reading

2. Read this text about different drinks and say which drink is the best choice, the best recommendation in a healthy diet?

WATER — THE BEST CHOICE

Drinking plenty of non-alcoholic liquid each day is an often overlooked part of a well-balanced diet. A minimum of 8 glasses (which is about 2 litres) is the ideal. If possible, these should not all be tea or coffee, as these are stimulants and diuretics, which cause the body to lose liquids, taking with them water-soluble vitamins. Water is the best choice. Other good choices are fruit or herb teas or tisanes, fruit juices — diluted with water, if preferred — or semi-skimmed milk (full-fat milk for very young children). Fizzy sugary or acidic drinks such as cola are more likely to damage tooth enamel than other drinks.

3. And now, read one more text "Constituents of food" and tell how much water is in the body.

CONSTITUENTS OF FOOD

Water. Without water life is impossible. 2/3 of the body's weight is water. Almost every process in the body takes place inside and outside the cells where water is the solvent. The need of the body for water is second to its need for air. Adults can live for many weeks without food but for only a few days without water.

Water comes from solid foods and from soft drinks, and can be lost by evaporation. The kidneys regulate the balance of water in the body. Great losses of water can be dangerous. If water intake is not increased, dehydration may result. An adult person must drink at least one litre of water every day; more will be needed if heavy work is done.

Dietary Fibre. Some foods, particularly cereals and some fruit and vegetables, contain large amounts of "dietary fibre". They are indigestible materials and are not absorbed into the body.

Flavours, Colours. All foods have a lot of constituents which give them characteristic flavours, colours and textures.

Food technologists and cooks must control over the changes which take place in these constituents (water, dietary fibre, flavours and colours) during storage and cooking.

TEST

4. Decide whether these statements are true or false.

1. Drinking a lot of non-alcoholic drinks is a good part of a well-balanced diet. T/F
2. People should drink either tea or coffee as they serve as stimulants or diuretics. T/F
3. Water is the best choice in a diet. T/F
4. Without water life is impossible. T/F
5. 1/3 of the body's weight is water. T/F

Speaking

5. Answer the following questions to the texts "Water" and "Constituents of food".

1. What drinks are good choices in an everyday well-balanced diet?
2. Where does water come from?
3. Do the kidneys regulate the balance of water in the body?
4. What foods contain dietary fibre?
5. All foods have certain characteristic flavours, colours and textures, don't they?

Key Words

6. Learn the following key words and word combinations.

constituent	складова частина, елемент
without	без
impossible	неможливий
weight	вага
soft drinks	безалкогольні напої
to lose	втрачати
loss	втрата

to result	статися
to regulate	регулювати, упорядковувати
cereal	хлібні злаки
indigestible	несправний, нелегкотравний
flavour	аромат, приємний смак
storage	зберігання
texture	текстура, структура
cell	клітина
solvent	розчинник
evaporation	випаровування
dehydration	обезводнювання
kidney	нирка
to take place	проходити
during	під час, протягом
fizzy drinks	газовані напої
herb tea	трав'яний чай
fruit tea	фруктовий чай
to damage	пошкодити
to cause	викликати; спричиняти
to lose liquids	втрачати рідину

Тема: **CARBOHYDRATES**

CLILs: chemistry, organic chemistry.

Vocabulary Practice

1. Learn the following key words and word combinations.

carbohydrate	вуглевод
substance	речовина, субстанція
to be present in	бути присутнім в
sugar	цукор
starch	крохмаль
non-starch polysaccharide (NSP)	полісахариди некрохмального походження
fibre	волокно, клітковина
intrinsic	внутрішній, притаманний
extrinsic	зовнішній
sweet-tasting	солодкий на смак
to occur	траплятися; зустрічатися

fructose	фруктоза
lactose	лактоза
sucrose	цукроза
honey	мед
treacle	патока
added	доданий
to provide	забезпечувати, надавати
to offer	пропонувати
to digest	перетравлювати
to absorb	всмоктувати
to break down	розщеплюватись
simple	простий
complex	складний
pasta	макаронні вироби
parsnip	пастернак
yam	*бот.* ямс; батат
rapidly	швидко

2. Read and learn the following LINK-WORDS:

that, **which** – який

whereas – в той час як

on the other hand – з іншого боку

3. Read and translate the following word combinations with the key words.

a. **carbohydrate:** simple carbohydrates; complex carbohydrates; to come from carbohydrates; total carbohydrates each day;

b. **sugar:** intrinsic sugars; extrinsic sugars; added sugars; table sugar;

*4. Word-building: the prefix **non-**. Read and translate these words.*

Milk — non-milk; starch — non-starch.

Reading

5. Read the text "Carbohydrates" and say in what three forms carbohydrates are found.

CARBOHYDRATES

Carbohydrates are energy-providing substances that are present in varying amounts in different foods and are found in three main forms: sugars, starches and non-starch polysaccharides (NSP), usually called fibre.

There are two types of sugars: *intrinsic sugars*, which occur naturally in fruit (fructose) and sweet-tasting vegetables, and *extrinsic sugars*, which include lactose

(from milk) and all the non-milk extrinsic sugars (NMEs) — sucrose (table sugar), honey, treacle and so on. The NMEs, or 'added sugars', provide only calories, whereas foods containing intrinsic sugars also offer vitamins, minerals and fibre. Added sugars (*simple carbohydrates*) are digested and absorbed rapidly to provide energy very quickly. Starches and fibre (*complex carbohydrates*), on the other hand, break down more slowly to offer a longer-term energy source. Starchy carbohydrates are found in bread, pasta, rice, wholegrain and breakfast cereals, and potatoes and other starchy vegetables such as parsnips, sweet potatoes and yams.

Healthy eating recommendations say that at least half of our daily energy (calories) should come from carbohydrates, and that most of this should be from complex carbohydrates. No more than 11% of our total calorie intake should come from 'added' sugars. For an average woman aged 19-49 years, this would mean a total carbohydrate intake of 259 g per day, of which 202 g should be from starch and intrinsic sugars and no more than 57 g from added sugars. For a man of the same age, total carbohydrates each day should be about 340 g (265 g from starch and intrinsic sugars and 75 g from added sugars).

TEST

6. Decide whether the following statements are true or false.

1. Carbohydrates provide the body with energy. T/F
2. Carbohydrates are not present in different foods. T/F
3. There are 5 forms of carbohydrates. T/F
4. Sugars are divided into intrinsic and extrinsic. T/F
5. Carbohydrates are also divided into simple and complex. T/F
6. Added sugars provide energy very quickly, whereas starches and fibre break down more slowly to offer a longer term energy. T/F
7. Healthy eating recommendations say that 80% of our daily energy should come from carbohydrates, better — from complex carbohydrates. T/F

Practice Stage

Speaking / *CONTROL QUESTIONS*

7. Work in pairs. Discuss these questions to the text "Carbohydrates".

1. Are carbohydrates present in different amounts in different foods?

2. What forms are carbohydrates found in?
3. How are sugars classified?
4. ‘Added sugars’ provide only calories, whereas foods with intrinsic sugars offer vitamins, minerals and fibre, don’t they?
5. What are the healthy eating recommendations for an average man and a woman each day?

Writing

8. Different carbohydrates are present in different foods. Copy out these foods.

Intrinsic sugars	Extrinsic sugars	Starchy carbohydrates
fruit	milk	bread

Тема: **FATS**

CLILs: biology, chemistry, organic chemistry.

Warm-up

1. Answer these questions.

1. What do fats give to human body?
2. What dairy foods contain a lot of fats?

Reading

2. Read the text “Fat” and tell how fats can be divided.

FAT

1 Fats are inorganic compounds that belong to lipids. Although a small amount of fat is essential for good health, most people consume far too much. Recommendations for healthy eating say that no more than 33% of our daily energy intake (calories) should come from fat. Each gram of fat contains 9 kcal, more than twice as many calories as carbohydrate or protein, so for a woman aged 19-49 years this means a daily maximum of 71 g fat, and for a man in the same age is 93.5 g fat.

2 Fats can be divided into 3 main groups: saturated, monounsaturated and polyunsaturated, depending on the chemical structure of the fatty acids they contain. *Saturated fatty acids* are found mainly in animal fats such as butter and other dairy products and in fatty meat. A high intake of saturated fat is known to be a risk factor for coronary heart disease. No more than 10% of our daily calories should come from saturated fats, which is about 21.5 g for an adult woman and 28.5 g for a man. Saturated fats tend to be solid at room temperature.

3 The *unsaturated fatty acids* — monounsaturated and polyunsaturated — tend to be liquid. *Monounsaturated fats* are found predominantly in olive oil, peanut oil, rapeseed oil and avocados. Foods high in *polyunsaturates* include most vegetables oils — the exceptions are palm oil and coconut oil, both of which are saturated.

4 Both saturated and monounsaturated fatty acids can be made by the body, but certain polyunsaturated fatty acids — known as *essential fatty acids* — must be supplied by food. There are 2 'families' of these essential fatty acids: *omega-6*, derived from linoleic acid, and *omega-3*, from linolenic acid. The main food sources of the omega-6 family are vegetable oils such as olive and sunflower; omega-3 fatty acids are provided by oily fish, nuts and vegetable oils such as soya and rapeseed.

5 When vegetable oils are hydrogenated (hardened) to make margarine and reduced fat spreads, their unsaturated fatty acids can be changed into trans fatty acids, or '*trans fats'*. They believe, that these artificially produced trans fats act in the same way as saturated fats within the body — with the same risks to health. They suggest, that no more than 2% of our daily calories should come from trans fats, which is about 4.3 g for an adult woman and 5.6 g for a man. Remember that major sources are processed foods such as: biscuits, pies, cakes and crisps.

Vocabulary Practice

3-A. Learn these key words and word combinations.

fat	жир
fatty acids	*хім.* жирні кислоти
saturated fats	насичені жири
unsaturated	ненасичений
monounsaturated fats	мононенасичені жири, прості жири
polyunsaturated fats	поліненасичені жири, складні жири
essential	1. необхідний; 2. дуже важливий;

	3. суттєвий; 4. цінний
essential fatty acids	необхідні жирні кислоти
trans fats	транс жири
linoleic acid	лінолева кислота (укр.) линолевая кислота (рос.)
linolenic acid	ліноленова кислота (*укр.)* линоленовая кислота (*рос.)*
omega-3, omega-6	омега-3, омега-6 (кислоти)
to contain	містити
to be divided into	поділятися на
to be supplied by	постачатися
to be provided by	забезпечуватись
intake	прийом; споживання
liquid	рідинний
solid	твердий
peanut oil	арахісова олія
rapeseed oil	рапсова олія
palm oil	пальмова олія
coconut oil	кокосова олія
sunflower	соняшник
spread	пастоподібний продукт, спред
reduced fat spread	спред з низьким вмістом жиру
exception	виняток
to derive	отримувати
vegetable oils	рослинні олії
hydrogenated	гідрогенізований
hardened	затверділий
artificially	штучно
to act	діяти
to consume	споживати
amount	кількість

3-B. Read and translate the following word combinations.

a. **fat:** saturated fat; unsaturated fat; fat intake; to reduce fat intake; to consume fat;

b. **fatty:** fatty acids; fatty layer; fatty foods;

c. **amount:** amount of fat; a small amount; a large amount; amount of water;

d. **to contain:** to contain fat; to contain milk; to contain nuts.

Practice Stage

Speaking / *CONTROL QUESTIONS*

4. Work in groups of three people. Answer the questions to the text "Fat".

1. Is a small or a large amount of fat essential for good health?
2. How much of our daily energy intake should come from fat?

3. How many kilocalories are there in a 1 gram of fat?
4. What groups can fats be divided into?
5. What foods are the sources of saturated fatty acids?
6. Saturated fats tend to be solid at room temperature, don't they?
7. Are the unsaturated fatty acids solid or liquid?
8. What foods are the sources of monounsaturated fats?
9. What foods are high in polyunsaturated fatty acids?
10. Can all the fatty acids be made by the body?
11. What are the main food sources of omega-3 and omega-6 fatty acids?
12. What foods contain trans fats?

5. Using the text "Fat" continue the sentences.

1. Although a small amount of fat is essential ……. .
2. Recommendations for healthy eating say that ……. .
3. Fats can be divided into …….. .
4. Saturated fatty acids are found mainly in …… .
5. When vegetable oils are hydrogenated to make margarine …… .

Project

6. Prepare a presentation either about (A) essential fatty acids — omega-6 and omega-3, or about (B) trans fats.

Тема: **PROTEINS**

CLILs: chemistry, organic chemistry.

Warm-up

1. Answer the questions.

1. What do proteins give to body?
2. Is milk rich in protein?

Vocabulary Practice

2. Learn the following key words and word combinations.

protein	білок
nutrient	поживна речовина
cell	клітина
enzyme	фермент, ензим
antibody	антитіло
hormone	гормон
to be made up of	складатися з
acid	кислота
amino acid	аміно кислота
compound	складова
to contain	містити
carbon	вуглець
hydrogen	водень
oxygen	кисень
nitrogen	азот
commonly	за звичай
plant protein	білок рослинного походження
animal protein	білок тваринного походження
remaining	які залишаються
to obtain from	отримувати з
soya beans	боби сої
to contain	містити
pulses	бобові
seeds	зерна
to store	зберігати; накопичувати
therefore	тому
though	хоча

*3. Read and translate the word combinations with the word '**acid**'.*

Amino acid, lactic acid, nucleic acid, citric acid, folic acid, oxalic acid, ascorbic acid, acid rain.

Reading

4. Read the text "Protein" and match a name to each paragraph.

- Chemical structure
- Why is protein necessary?
- Daily recommendations
- Foods rich in protein

PROTEIN

1 _____ Protein is essential to keep the body working efficiently. This nutrient is necessary for growth and development, for maintenance and repair of cells, and for the production of enzymes, antibodies and hormones.

2 _____ Protein is made up of *amino acids*, which are compounds containing the 4 elements that are necessary for life: carbon, hydrogen, oxygen and nitrogen. We need all of the 20 amino acids commonly found in plant and animal proteins. The human body can make 12 of these, but the remaining 8 — called *essential amino acids* — must be obtained from the food we eat.

3 _____ Protein comes in a wide variety of foods. Meat, fish, dairy products, eggs and soya beans contain all of the essential amino acids, and are therefore called first-class protein foods. Pulses, nuts, seeds and cereals are also good sources of protein, but do not contain the full range of essential amino acids. It is important, though, to eat protein foods every day because the essential amino acids cannot be stored in the body for later use.

4 _____ The recommended daily amounts of protein for women aged 19-49 years are 45 g per day and for men of the same age 55 g.

Speaking / *CONTROL QUESTIONS*

5. Discuss these questions in pairs.

1. What is protein necessary for?
2. What is protein made up of?
3. What 4 elements necessary for life do amino acids contain?
4. How many amino acids do people need?
5. How many amino acids can the human body make?
6. How many essential amino acids must be obtained from the food we eat?
7. There are plant and animal proteins, aren't there?

8. What foods contain all of the essential amino acids?
9. Why is essential to eat protein foods every day?
10. What are the recommended daily amounts of protein for women and men aged 19-49 years?

Тема: **MINERALS**

CLILs: chemistry, organic chemistry.

Warm-up

1. QUIZ: What do you know about minerals? Choose and underline the correct answer.

MINERALS

1. Minerals are *organic / inorganic* substances that perform a wide range of vital functions in the body.
2. The macrominerals (major minerals) — calcium, chloride, magnesium, potassium, phosphorus and sodium — are needed in relatively *large / small* quantities.
3. Minerals needed in much *smaller / larger* amounts are called microminerals.
4. Some *microminerals / macrominerals* (selenium, magnesium and iodine, for example) are needed in such tiny amounts that they are known as 'trace elements'.
5. Dairy foods are good sources of the following minerals: *calcium / iron*, chromium, phosphorus, selenium.

Answers Key: 1 – inorganic, 2 – large, 3 – smaller, 4 – microminerals, 5 – calcium.

Reading

2. Read the text "Major Minerals".

MAJOR MINERALS

1 Calcium, phosphorus, magnesium, sodium, chlorine, potassium, and iron are known as major minerals.

2 Iron. Healthy people contain about 3 to 4 g of iron, more then half of which is in the form of haemoglobin, the red pigment of blood. Also it is present in some organs such as the liver. If food has not enough iron to replace body's losses, anaemia may result. The absorption of iron from food is low. Most readily it is absorbed from meat (up to 25 per cent). Less than 5 per cent of the other forms of iron such as those in eggs and vegetables or added to flour are absorbed. The exact amounts depend on other factors in the diet, for example, it is increased by vitamin C, but decreased by tannins in tea. Some other important sources of iron are eggs, cereal products, potatoes and vegetables.

3 Calcium. Calcium is the most widely distributed mineral in the body. All but one per cent of it is in the bones and teeth. It gives them strength. About 10g of calcium are essential for the contraction of muscles including the heart muscle, for nerve function, for the activity of several enzymes. Too little calcium in the body causes different diseases of bones and teeth. Only about 20-30 per cent of the calcium in the average diet is normally absorbed. Few foods besides milk and cheese, and most bread contain significant amounts of calcium. It is very important that these foods are included in the diet, especially for children whose needs are greatest.

4 Phosphorus. Phosphorus is the second wide-spread mineral in the body in the form of various phosphates which perform a lot of essential functions. Calcium phosphates provide the strength of bones and teeth. Inorganic phosphates are major constituents of all cells. Phosphates play an important role in the liberation and utilization of energy from food. They are also constituents of nucleic acids and some fats, proteins and carbohydrates. Because phosphorus is present in nearly all foods, its dietary deficiency is unknown in man. The main sources of phosphorus in the diet are milk and milk products, bread and other cereal products, meat and meat products.

Key words

2. Learn the terms.

calcium	кальцій
phosphorus	фосфор
phosphate	фосфат
iron	залізо
magnesium	магній

sodium	натрій
chlorine	хлор
chromium	хром
potassium	калій
selenium	селен
anaemia	анемія
haemoglobin	гемоглобін
mineral	мінерал; мінеральна речовина
major minerals (macrominerals)	основні мінеральні речовини
microminerals	мікромінерали
trace minerals	мікроелементи
inorganic	неорганічний
nucleic acid	нуклеїнова кислота

3. Match the synonyms.

main	utilization
foods	widely distributed
use	major
deficiency	almost
nearly	products
widespread	too little

4. Learn the following words and word combinations.

major/main	головний
healthy	здоровий
to contain	містити
amount	кількість
blood	кров
to be present in	бути присутнім в
liver	печінка
enough	достатньо
to replace	замінити
loss	втрата
body	тіло, організм
to result	мати в результаті
to absorb	всмоктувати, абсорбувати
absorption	всмоктування
low	низький
less than	менш ніж
to add	додавати
flour	борошно
exact	точний
to depend on	залежати від
to increase	збільшувати

to decrease	зменшувати
tannin	танін
source	джерело
cereal products	крупи
widely distributed	широко розповсюджений
bone	кістка
teeth	зуби
strength	сила, міцність
constituent	складова частина
cell	клітина
essential	суттєвий, необхідний
contraction of muscles	стискання м’язів
function	функція
activity	діяльність
enzyme	ензим, фермент
to cause	викликати, спричиняти
disease	хвороба
average	середній
few	небагато, мало
significant	значний
to include	включати
besides	окрім, до того ж
wide-spread	поширений
to perform	виконувати
to provide	забезпечувати; надавати
to play an important role in	грати важливу роль в
utilization	використання
liberation	звільнення
dietary deficiency	харчова нестача
various	різний
fat	жир
carbohydrate	вуглевод

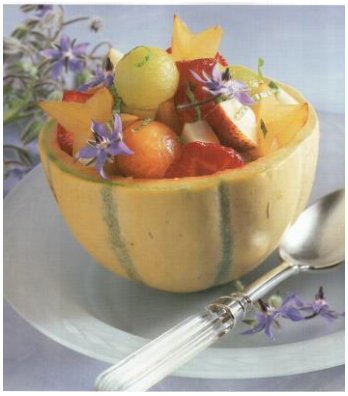
Speaking / CONTROL QUESTIONS

5. Answer the questions to the text “Major Minerals”.

1. What minerals are known as major minerals?
2. How much iron do healthy people contain?
3. What organs of the body is iron present in?
4. Is the absorption of iron from food high or low?
5. The important sources of iron are eggs, cereal products, potatoes and vegetables, aren’t they?
6. Is calcium the most widely distributed mineral in the body?

7. What organs of the body is calcium present in?
8. What foods are the main sources of calcium?
9. Is phosphorus the first or the second wide-spread mineral in the body?
10. Phosphorus is present in nearly all foods, isn't it?
11. What minerals does meat contain?
12. What minerals can be found in dairy products?

6. Work in groups of three. Translate the text "Major Minerals" into Ukrainian.



Тема: **VITAMINS**

CLILs: chemistry, organic chemistry.

Text A

Reading

1. Read the text "Vitamins — Fat-Soluble Vitamins."

VITAMINS — FAT-SOLUBLE VITAMINS

1 Vitamins are organic compounds that are essential for good health. Although they are necessary in only small amounts, each one has specific vital functions to perform. Most vitamins can not be obtained from the human body, and therefore must be obtained from the diet. The body is capable of storing some vitamins (A, D, E, K and B_{12}), but the rest need to be provided by the diet. Vitamins can be divided into 2 groups: water-soluble (B complex and C) and fat-soluble (A, D, E and K). As for water-soluble vitamins, they are easily destroyed during processing, storage, and the preparation and cooking of food.

2 Vitamin A (retinol) is essential for healthy vision, eyes, skin and growth. Good sources include dairy products, liver, eggs and oily fish. Vitamin A can also be obtained from beta-carotene, the pigment found in highly coloured fruit and vegetables.

3 Vitamin D (cholecalciferol) is essential for growth and the absorption of calcium, and thus for the formation of healthy bones. It is also involved in maintaining a healthy nervous system. The amount of vitamin D occurring naturally in foods is small, and it is found in very few foods — good sources are oily fish, eggs

and liver, as well as breakfast cereals, margarine and full-fat milk that are fortified with vitamin D. Most vitamin D, however, does not come from the diet but is made by the body when the skin is exposed to sunlight.

4 Vitamin E is not one vitamin, but a number of related compounds called tocopherols that function as antioxidants. Good sources of vitamin E are vegetable oils, polyunsaturated margarines, wheatgerm, sunflower seeds, nuts, oily fish, eggs, wholegrain cereals, avocados and spinach.

5 Vitamin K is essential for the production of several proteins, including prothombin which is involved in the clotting of blood. Vitamin K exists in 3 forms, one of which is obtained from food while the other two are made by the bacteria in the intestine. Vitamin K_1, which is the form found in food, is present in broccoli, cabbage, spinach, milk, margarine, vegetable oils, particularly soya oil, cereals, liver, alfalfa and kelp.

6 Vitamin B_{12} (cyanocobalamin) is vital for growth, the formation of red blood cells and maintenance of a healthy nervous system. B_{12} is unique in that it is only found in foods of animal origin. Good sources of vitamin B_{12} include liver, kidneys, oily fish, prawns, meat, cheese, eggs and milk.

Follow-up

2. Decide whether the following statements are true or false.

1. Vitamins are divided into three groups. T/F
2. Beta-carotene acts as a source of vitamin A. T/F
3. Tomatoes, carrots, Spanish pepper, red chilly pepper, apricots, and peaches are good sources of beta-carotene and that is of vitamin A. T/F
4. Vitamin D is necessary for the maintenance of a healthy nervous system. T/F
5. Vitamin D can be found in a lot of foods. T/F
6. Vitamin E is only one vitamin. T/F
7. Vitamin K is known to exist in three forms. T/F
8. Vitamin B_{12} is found in foods of both vegetable and animal origin. T/F

Vocabulary Practice / Translating

3. Find in the text "Vitamins — Fat-Soluble Vitamins" the English equivalents for the following Ukrainian ones.

a) Більшість вітамінів не можна отримати з організму людини; b) організм може накопичувати деякі вітаміни; c) решту треба забезпечити з харчування; d) вони легко руйнуються під час; e) яка природно зустрічається в продуктах; f) сухі сніданки; g) які підсилюються вітаміном; h) коли шкіру виставляють на сонячне світло; i) підтримка здорової нервової системи; j) в той час як інші продукуються бактеріями в кишці.

4. Match the vitamins with their other names.

vitamin A	tocopherols
vitamin D	vitamin K_1
vitamin E	retinol
vitamin K	cholecalciferol
fat-soluble vitamins	B-complex and vitamin C
water-soluble vitamins	cyanocobalamin
vitamin B_{12}	A, D, E, K and B_{12}

5. Find in the text "Vitamins. Classification. Fat-Soluble Vitamins" the names of different foods. Fill in these foods, according to their classification, into the table below.

Fruit	Vegetables	Milk Foods	Meat Foods	Seafood	Cereals & Seeds
avocado	spinach	margarine	liver	oily fish	cereals

6. Translate the text "Vitamins. Fat-Soluble Vitamins" into Ukrainian.

Speaking

7. Speak about each fat-soluble vitamin according to the scheme:

Vitamin …….. is necessary for …….. .

Its other name is …….. .

Good sources of vitamin ……. are …….. .

Key words

8. Learn the following key words and word combinations.

compound	сполука; з'єднання; складна речовина
essential	необхідний; суттєвий

vital	життєво важливий; суттєвий
to perform specific functions	виконувати специфічні функції
to obtain	одержувати; діставати, здобувати
body	тіло; організм
related	зв’язаний
to be capable of	бути здібним, могти
storing	накопичування
storage	зберігання
processing	переробка
preparation	підготовка; приготування
although	хоча
therefore	тому
thus	таким чином
to occur	траплятися; зустрічатися
to provide	забезпечувати; надавати
to divide	поділяти
to maintain	підтримувати
to be involved in	бути залученим в
healthy	здоровий
source	джерело
to include	включати
to function as	діяти як; функціонувати як
to fortify with	зміцнювати, підсилювати (*чимось*)
to expose	виставляти
to exist	існувати
growth	ріст
form	форма
formation	утворення, формування
absorption	всмоктування, абсорбція
a number of	велика кількість
dairy	молочний
oily fish	жирна риба
liver	печінка
kidneys	нирки
wholegrain cereals	непросіяне зерно (хлібні злаки, крупи)
full-fat milk	жирне (незбиране) молоко
polyunsaturated	поліненасичені
wheatgerm	ростки (пагони) пшениці
sunflower seeds	насіння соняшника
spinach	шпинат
vegetable oil	рослинна олія
alfalfa	люцерна
kelp	бурі водорості (ламінарія)
prawns	креветки

9. Learn the following terms.

vitamin	вітамін
water-soluble	водорозчинний
fat-soluble	жиророзчинний
retinol	ретинол
cholecalciferol	холекальциферол
tocopherol	токоферол
antioxidant	антиоксидант
protein	протеїн, білок
cyanocobalamin	цианокобаламін
prothombin	протромбін
clotting of blood	звертування крові
pigment	пігмент
red blood cells	червоні клітини крові
vision	зір
skin	шкіра
eyes	очі
bone	кістка
intestine	кишка

Text B

Reading

1. Read the text "Water-Soluble Vitamins."

WATER-SOLUBLE VITAMINS

1 The B Complex vitamins have very similar roles to play in nutrition, and many of them occur together in the same foods. ***Vitamin B1*** (thiamin) is essential in the release of energy from carbohydrates. Good sources include milk, offal, meat (especially pork), wholegrain and fortified breakfast cereals, nuts and pulses, yeast extract and wheat germ.

2 Vitamin B2 (riboflavin) is vital for growth, healthy skin and eyes, and the release of energy from food. Good sources include milk, meat, offal, eggs, cheese, fortified breakfast cereals, yeast extract and green leafy vegetables.

3 Niacin (nicotinic acid), sometimes called vitamin B3, plays an important role in the release of energy within the cells. Unlike the other B vitamins it can be made by the body. Good sources include meat, offal, fish, fortified breakfast cereals and pulses.

4 Pantothenic acid, sometimes called vitamin B5, is involved in a number of metabolic reactions, including energy production. This vitamin is present in most

foods (excepting fat, oil and sugar). Good sources include liver, kidneys, fish roe, yeast, egg yolks, wheat germ, fresh vegetables and pulses.

5 Vitamin B6 (pyridoxine) helps the body to utilize protein and contributes to the formation of haemoglobin for red blood cells. B6 is found in a wide range of foods including meat, liver, fish, eggs, wholegrain cereals, some vegetables, pulses, brown rice, nuts and yeast extract.

6 Folate (folic acid) is involved in the manufacture of amino acids and in the production of red blood cells. Folate may also help to protect against heart disease. Good sources of folate are green leafy vegetables, liver, pulses, eggs, wholegrain cereal products, wheatgerm, nuts and fruit, especially grapefruit and oranges.

7 Biotin is needed for various metabolic reactions and the release of energy from foods. Good sources include liver, oily fish, kidneys, egg yolks and brown rice.

8 Vitamin C (ascorbic acid) is essential for growth and vital for the formation of collagen (a protein needed for healthy bones, gums, teeth, blood capillaries and all connective tissue.) It plays am important role on the healing of wounds and fractures, and acts as a powerful antioxidant. Vitamin C is found mainly in fruit (lemons, kiwi, pineapple, berries, and apricots) and vegetables.

Practice Stage

Speaking / *CONTROL QUESTIONS*

2. Answer the questions to the text "Water-Soluble Vitamins."

1. What vitamins refer to water-soluble vitamins?
2. What roles do the B Complex vitamins play in nutrition?
3. Is vitamin B_1 the same as thiamin?
4. Riboflavin is vital for growth, healthy skin and eyes, isn't it?
5. Is vitamin B_2 present in green leafy vegetables and meat?
6. Does niacin play an important role in the release of energy from food?
7. How is sometimes pantothenic acid called?
8. What foods contain pantothenic acid?
9. What foods is pyridoxine found in?
10. Folic acid is involved in the manufacture of amino acids and in the production of red blood cells, isn't it?

11. Do grapefruit and oranges contain folic acid?

12. What is biotin needed for?

13. Is ascorbic acid or nicotinic acid the other name of vitamin C?

14. Where is mainly vitamin C found?

3. Match a water-soluble vitamin (Column A) with its other name (Column B).

A	B
vitamin B_1	ascorbic acid
vitamin B_2	pyridoxine
vitamin B_3	folic acid
vitamin B_5	riboflavin
vitamin B_6	pantothenic acid
folate	thiamin
vitamin C	niacin, *or* nicotinic acid

4. Fill in the table with the names of foods that contain a certain water-soluble vitamin (see the text "Water-Soluble Vitamins").

B_1	B_2	B_3	B_5	B_6	folate	biotin	C
milk	eggs	pulses	vegetables	fish	oranges	liver	fruit

5. Translate the text "Water-Soluble Vitamins" into Ukrainian.

Vocabulary Practice

6. Learn the following key words and word combinations.

release	звільнення
carbohydrate	вуглевод
offal	тельбухи
pulses	бобові
yeast	дріжджі
thiamin	тіамін
riboflavin	рибофлавін
green leafy vegetables	зелені листяні овочі
acid	кислота
niacin	ніацин

nicotinic acid	нікотинова кислота
amino acid	амінокислота
unlike	на відміну від
egg yolk	яєчний жовток
fish roe	молока рибна
to contribute to	сприяти; робити внесок в
to utilise	утилізувати; використовувати
biotin	біотин
pantothenic acid	пантетенова кислота
ascorbic acid	аскорбінова кислота
folic acid/folate	фолієва кислота/фолат
manufacture	виробництво
gums	ясна
connective tissue	з'єднувальна тканина
healing	зцілення
wound	рана
fracture	перелом, розрив
powerful	потужний, могутній
to act as	діяти як
pyridoxine	піридоксин
heart disease	хвороба серця

*7. Wordsearch **"Vitamins".** Find the names of different vitamins.*

Key words for the wordsearch "Vitamins": pantothenic, thiamin, niacin, folic, biotin, vitamin, riboflavin, tocopherol, pyridoxine, cyanocobalamin, cholecalciferol, retinol, water-soluble.

p	a	n	t	o	t	h	e	n	i	c	a	b	c	d	e	f
m	n	o	p	q	h	u	r	t	v	x	x	y	n	o	n	k
o	n	i	a	c	i	n	f	g	h	i	j	k	l	m	i	l
p	i	t	h	i	a	s	c	o	r	b	i	c	n	o	m	t
l	a	f	a	r	m	a	k	l	m	n	o	p	q	r	a	o
v	c	o	a	r	i	b	o	f	l	a	v	i	n	s	t	c
i	i	l	c	e	n	t	u	v	w	x	y	z	a	b	i	o
t	b	i	o	t	i	n	c	d	e	f	g	h	i	j	v	p
a	v	c	l	i	k	l	m	n	o	p	q	r	s	t	u	h
m	i	l	d	n	v	w	p	y	r	i	d	o	x	i	n	e
c	y	a	n	o	c	o	b	a	l	a	m	i	n	x	y	r
o	c	h	o	l	e	c	a	l	c	i	f	e	r	o	l	o
o	r	i	g	i	c	e	l	t	i	c	e	n	g	l	e	l
w	a	t	e	r	s	o	l	u	b	l	e	a	b	c	d	e

Check up the answers:

p	a	n	t	o	t	h	e	n	i	c						
					h										n	
	n	i	a	c	i	n									i	
					a	s	c	o	r	b	i	c			m	t
		f			m										a	o
		o		r	i	b	o	f	l	a	v	i	n		t	c
		l		e	n										i	o
	b	i	o	t	i	n									v	p
		c		i												h
				n			p	y	r	i	d	o	x	i	n	e
c	y	a	n	o	c	o	b	a	l	a	m	i	n			r
	c	h	o	l	e	c	a	l	c	i	f	e	r	o	l	o
																l
w	a	t	e	r	s	o	l	u	b	l	e					

Тема: **MILK**

CLILs: chemistry, biochemistry of milk, technology of milk and dairy products, sanitation of a processing plant

Text A

Reading

1. Read the text "Milk".

MILK

1 Cow milk is the most complete of all foods having nearly all the constituents of nutritional importance to man, though it has little iron and vitamins C and D. There is not any other product of animal origin having such an amount of carbohydrate, in the form of disaccharide lactose. It is a very good source of vitamins A, B, C, of calcium. Milk contains fat, sugar, proteins and all the other minerals.

2 Any person needs about half a litre every day, of which an increasing proportion consists of skimmed and semi-skimmed products. In a mixed diet milk is valuable for its content of high quality protein, and is a rich source of riboflavin.

3 Whole milk can be a good source of energy, which is particularly important for young children. Skimmed or semi-skimmed milks may be useful for those who drink a lot of milk and who wish to reduce their fat intake.

4 Milk is widely used by man. It can serve as a basis for many important foods. It is a basic product for the preparation of such products as butter, different kinds of cheese, cakes, some kinds of bread and sweets.

TEST

2. Decide whether the following statements are true or false.

1. Cow milk has all the nutrients necessary for man. T/F
2. Cow milk has a lot of iron and vitamin C. T/F
3. Cow milk does not have much carbohydrate in the form of disaccharide lactose. T/F
4. Milk is a good source of calcium and other minerals. T/F
5. Every person needs a litre of milk every week. T/F
6. Milk for grown-up people must be skimmed or semi-skimmed, and whole milk can be recommended for young children. T/F
7. Milk contains high quality protein, and is a rich source of riboflavin. T/F
8. Milk is not used for the preparation of bread and biscuits. T/F

Vocabulary Practice

*3. Learn the following **key words** and word combinations.*

cow milk	коров'яче молоко
whole milk	незбиране молоко
skimmed milk	збиране молоко
complete	повний
animal origin	тваринне походження
carbohydrate	вуглевод
source	джерело
useful	корисний
to reduce	скоротити
fat	жир
intake	прийом; споживання
to be widely used	широко застосовуватись
to serve	служити
important	важливий
butter	масло
basic	основний

4. Find in the text "Milk" the English equivalents of the following word combinations:

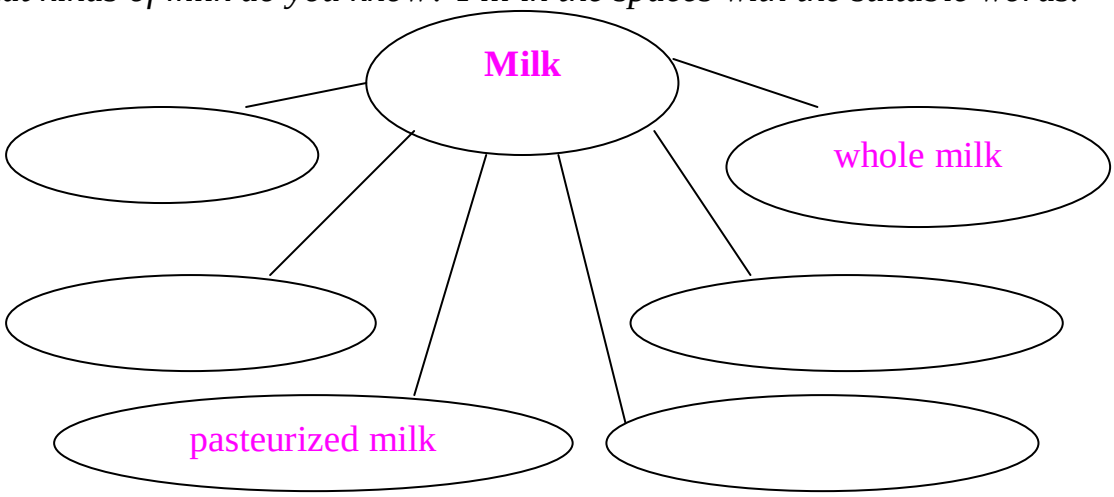
a) найбільш повний; b) який має майже усі поживні складові частини, важливі для людини; c) не існує жодного іншого продукту; d) у формі дисахариду лактози; e) високоякісний білок; f) більша пропорція; g) змішана дієта; h) що особливо важливо; i) скоротити споживання жиру.

Follow-up

5. Match the heading (Column A) to the paragraph (Column B).

A	B
A basic product for preparation.	Paragraph 1
Whole and skimmed milks.	Paragraph 2
Needs in milk for every person.	Paragraph 3
A nutritionally important food product.	Paragraph 4

6. What kinds of milk do you know? Fill in the spaces with the suitable words.



7. Translate the text "Milk" into Ukrainian.

Speaking / *CONTROL QUESTIONS*

8. Answer the questions to the text "Milk".

1. Does cow milk have all the constituents of nutritional importance for man?
2. What nutrients and vitamins does milk contain?
3. In a mixed diet milk is valuable for its content of high quality protein, isn't it?
4. Do they recommend skimmed and semi-skimmed milk products in a daily diet fro adults?
5. Which milk is recommended for young children?

6. Is milk a basic product for the preparation of some breads, cakes and dairy products?
7. What dairy (milk) products do you know?

Text B

DAIRY

Pre-reading/ Get ready!

1. Before you read the passage, talk about these questions.

1. What are some examples of dairy products?
2. What are the best ways to store different dairy products?

Memo

Attention All Kitchen Staff:

I noticed that a number of dairy products spoiled this month. People are not storing these items properly. Here are some reminders about dealing with dairy products:

Please keep regular milk in the refrigerator, not the freezer. When milk freezes, the cream separates. It is nearly impossible to stir together again when the milk thaws. Only skim milk can freeze and thaw properly. Sealed cans of evaporated milk can be stored at room temperature. However, you must refrigerate opened cans.

Cultured products generally last longer than milk, but remember to check expiration dates. We served several meals last week with expired yogurt. I also found packets of expired butter and cream cheese on the tables in the dining room.

Even though we buy pasteurized products, bacteria can become a problem. Especially with cheeses, check the appearance and smell of any product before you use it.

Arnold,
Head Chef

Reading

2. Read the memo about dairy products. Then choose the correct answers.

1. What is the purpose of the memo?

A to introduce a new storage system of dairy products
B to warn about consequences of letting products spoil
C to offer reminders about product freshness
D to describe ways harmful bacteria attack dairy products

2. Which is NOT an instruction in the memo?

A Keep regular milk in the freezer.
B Refrigerate evaporated milk.
C Check expiration dates.
D Examine cheeses before using them.

3. What is true about skim milk?

A It can be kept at room temperature.
B It is best stored in sealed cans.
C It should not be frozen.
D It thaws better than other types of milk.

Vocabulary Practice

3. Fill in the blanks with the correct words or phrases from the word bank.

dairy **butter** **spoil** **skim** **cultured**
evaporated milk **pasteurized**

1. Yogurt is _____ to make it more digestible.
2. The farm sells a variety of _____ products to supermarkets.
3. _____ is solid in the refrigerator, but you can melt it into a liquid.
4. Adding water to _____ gives it the same consistency as regular milk.
5. If you want to consume less fat, you should drink _____ milk.
6. The cream cheese will _____ if you leave it out in the heat.
7. The restaurant only buys safe, _____ milk.

4. Match the words and phrases (1-5) with the definitions (A-E).

1 __ milk
2 __ cream
3 __ cheese
4 __ yogurt
5 __ cream cheese

A a thick liquid dairy product that contains fat

B a soft dairy product made with cream and milk

C a soft dairy product made with bacteria

D white liquid produced by cows

E a solid or semi-solid dairy product

5. Listen and read the memo about dairy products again. What are some ways a chef can ensure the freshness of dairy products?

Follow-up

*6. **A** Complete the conversation between a chef and a cook's helper with the words from the box.*

that's bad	You also can't	left the milk	check the date
it will spoil	out of the refrigerator		

Chef: Andy, would you come here for a moment?

Helper: Sure, boss. What's up?

Chef: Were you preparing this cheese dip?

Helper: Yes, Chef Jones asked me to get the ingredients ready for this afternoon. Why?

Chef: First of all, you 1 ____ ____ ____ sitting here on the counter.

Helper: Oh, I see. So 2 ____ ____ ?

Chef: Definitely. If you don't put it back in the refrigerator, 3 ____ ____ ____ .

Helper: Sorry. I'll keep that in mind. Was that all?

Chef: Actually, no. 4 ____ ____ ____ use this cheese.

Helper: Why not? I got it 5 ____ ____ ____ ____ .

Chef: This package expired three days ago. You have to remember to 6 ____ ____ ____ .

***B** Read the conversation again. Mark the following statements as true or false.*

1 The man did not store a dairy product properly. T/F

2 The milk was expired. T/F

3 The man used the wrong type of cheese for the dip. T/F

Writing

7. Use the memo about dairy products and the conversation from Task 6 to fill out the chef's inspection report.

Monthly Kitchen Inspection Report
Were dairy products stored correctly? Y / N Please describe conditions: _____ _____ _____ Were dairy products fresh? Y /N Please describe conditions: _____ _____ _____

Key Words

8. Learn the following words and word combinations.

dairy	молочний
liquid	рідина; рідинний
solid	твердий
semi-solid	напівтвердий
soft	м'який
thick	густий
to contain	містити
to spoil	псувати(ся)
culture	культура, вирощування бактерій
cultured	культивований, розведений
fresh	свіжий
freshness	свіжість
evaporated	згущений
pasteurised	пастеризований
skim	збираний
to melt	танути, розтанути
to thaw	танути
to store	зберігати
to keep (kept, kept)	тримати, зберігати
to check	перевіряти
expiration date	кінцевий строк споживання
storage	зберігання
to freeze (froze, frozen)	заморожувати
to refrigerate	охолоджувати
refrigerator	холодильник
sealed	герметизований; герметичний; запечатаний
a can	бляшана банка
cultured	культивований; розведений; культурний
cultured milk products	кисломолочні продукти

Тема: **PROCESSING OF MILK**

CLILs: biochemistry of milk, technology of milk and dairy products

Warm-up

1. Discuss this saying:

- (Don't) cry over spilled milk.

Reading

2. Read the text "Processing of Milk".

PROCESSING OF MILK

1 In homogenized milk the fat globules are broken up and distributed so that they no longer rise to form a creamy layer at the top of the milk bottle. The nutritional value of such milk is similar to that of pasteurized milk.

2 In skimmed milk almost all of its fat is removed. Semi-skimmed milk contains only 1.5 per cent of fat.

3 Pasteurization of milk is a form of heat treatment when milk is heated to about 72 deg C for 15 seconds, and all disease-causing bacteria are destroyed.

4 Sterilized milk is prepared from homogenized milk which is bottled and then heated to about 120 deg C for about an hour. During this process about 60 per cent of the vitamin C and 20 per cent of the thiamin are destroyed.

5 Evaporated milk is prepared by the concentration of liquid milk at low temperatures. The milk is sterilized in cans at 115 deg C for 15 minutes. The nutrient losses are similar to those in sterilized milk.

6 To improve the keeping quality of liquid milk, various heat treatments can be used. The fat, fat-soluble vitamins, carbohydrates and minerals of milk are usually not affected by heat. The vitamins in milk which are partially destroyed by heat processing are vitamin C, thiamin, pyridoxine, vitamin B_{12}, and folic acid.

Key words

3. Learn the following key words and word combinations.

processing	обробка; технологія
homogenized	гомогенізований
pasteurized	пастеризований
sterilized	стерилізований
evaporated milk	згущене молоко

skimmed milk	збиране молоко
semi-skimmed milk	напівзбиране молоко
liquid milk	питне молоко
almost all	майже весь
to break up (broke, broken)	розбивати
fat globule	жирова кулька
to distribute	розподіляти
to rise	піднімати(ся)
so that	для того щоб
a creamy layer	вершковий прошарок
top	верхівка
similar	схожий, подібний
to remove	усувати
form	форма
heat treatment	теплова обробка
to heat	нагрівати
disease-causing	хвороботворний
bottle	пляшка
to bottle	розливати (в пляшки)
to destroy	руйнувати
low temperature	низька температура
can	банка (металева)
loss	втрата
quality	якість
fat-soluble	жиророзчинний
to affect	впливати; вражати
partially	частково
deg C (degrees Celsius)	градусів Цельсію

Speaking / *CONTROL QUESTIONS*

4. Answer the questions to the text "Processing of Milk".

1. Are the fat globules broken up in homogenized milk?
2. What is the nutritional value of homogenized milk?
3. In skimmed milk almost all of its fat is removed, isn't it?
4. How much fat does semi-skimmed milk contain?
5. Is pasteurization of milk a form of heat treatment?
6. Is the temperature by milk pasteurization 72 deg C or 120 deg C?
7. How is sterilized milk prepared?
8. What is the temperature and time regime by milk sterilization?
9. Is evaporated milk prepared by the concentration of liquid milk at low temperatures?

10. What nutrients in milk are partially destroyed by heat processing?

5. Match the heading (Column A) to the paragraph (Column B).

A	B
The Influence of Heat Treatment on Nutrients	Paragraph 1
Evaporated Milk	Paragraph 2
Homogenized Milk	Paragraph 3
Fat in Skimmed Milk	Paragraph 4
Pasteurization of Milk	Paragraph 5
Milk Sterilization	Paragraph 6

Writing / Translating

6. Translate the sentences with the Passive Voice into Ukrainian.

1. The fat globules *are broken* up in homogenized milk.
2. In skimmed milk almost all of its fat *is removed*.
3. Milk *is heated* to about 72 deg C for 15 seconds by pasteurization.
4. Sterilized milk *is prepared* from homogenized milk.
5. During sterilization about 60 per cent of the vitamin C *is destroyed*.

Vocabulary Practice

7. Match the synonyms in two columns.

A	B
a. low-fat milk	1. milk products
b. full-fat milk	2. skimmed milk
c. dairy foods	3. heat treatment
d. pasteurization	4. whole milk
e. treatment	5. processing

8. Fill in the text "Dairy foods: eat 2-3 portions a day" with the words from the box.

calcium, low-fat, semi-skimmed, system, eyes, full-fat, ~~*milk*~~, protein

DAIRY FOODS: EAT 2-3 PORTIONS A DAY

Dairy foods, such as (1) milk, cheese, yogurt and fromage frais, are the best source of (2) _____ for strong bones and teeth, and important for the nervous (3) _____ . They also provide some (4) _____ for growth and repair, vitamin B_{12}, and vitamin A for healthy (5) _____ . They are particularly valuable foods for young children, who need (6) _____ versions at least up to age 2. Dairy foods are also especially important for adolescent girls to prevent the development of osteoporosis later in life, and for women throughout life generally.

To limit fat intake, adults should choose (7) _____ dairy foods, such as (8) _____ milk and low-fat yogurt.

What is a portion of dairy foods?

Some examples are: 1 medium-sized glass (200 ml) milk • 1 matchbox-sized piece (40g) Cheddar cheese • 1 small pot of yogurt • 125 g cottage cheese or fromage frais.

HELP BOX

adolescent – підлітковий
medium-sized – середнього розміру
cottage cheese – зернений творог
matchbox-sized – розміром з сирникову коробку
fromage frais – a kind of soft cheese
Cheddar – a kind of hard cheese

Answers Key: 1- milk, 2 – calcium, 3 – system, 4 – protein, 5 - eyes, 6 – full-fat, 7 – low-fat, 8 – semi-skimmed.

Milk Standardization means adjusting the fat content in milk to the exact percentage required. Different products require different percentages.

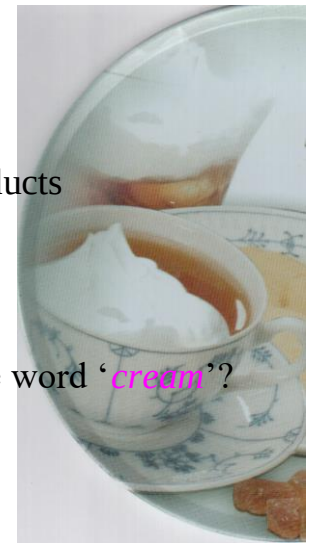
Тема: **MILK PRODUCTS — CREAM**

CLILs: biochemistry of milk, technology of milk and dairy products

Warm-up

1. Answer the questions.

1. What word combinations do you know in English with the word '*cream*'?
2. What do you know about cream teas in England?



Above: Cream tea.

Reading

2. Read the text "Milk Products — Cream".

MILK PRODUCTS — CREAM

1 Cream is derived from fresh milk either by skimming off the fatty layer which rises to the surface or in a mechanical separator. In a mechanical separator the

cream of any desired fat content may be obtained. The constituents of cream are the same as those of milk, but in a different proportion.

2 Minimum fat contents for different types of cream can be specified:

— half cream, 12 per cent by weight as milk fat;

— single cream, 18 per cent;

— whipped cream, 35 per cent;

— double cream, 48 per cent;

— clotted cream, 55 per cent.

These compare with 3.9 per cent fat in milk.

TEST

3. Decide whether the following statements are true or false.

1. Cream is usually derived from pasteurized milk. T/F
2. We can derive cream in a mechanical separator. T/F
3. Any fat content of cream may be obtained in a mechanical separator. T/F
4. The constituents of cream are not the same as those of milk. T/F
5. Kinds of cream can be specified by their fat content. T/F

Key Words

4. Learn the following key words and word combinations.

cream	вершки; крем
whipping/whipped cream	збиті вершки
single cream	одинарні вершки *(жирність 18 %)*
double cream	подвійні вершки *(жирність 48 %)*
clotted cream	вершки, що скипілися
skimming off	збирання (*вершків, піни*)
to derive	отримувати, одержувати; походити *(від)*
fatty layer	жировий шар
surface	поверхня
separator	сепаратор
desired	бажаний
fat content	жирність
to obtain	отримувати, одержувати
to specify	точно визначати
to compare with	порівнювати з

Vocabulary Practice / *TEST*

5. There are a lot of foods with the word 'cream'. Match the name of the food to its description.

1	cream	a	a meal consisting of tea and scones filled with cream and jam.
2	cream cheese	b	thick cream obtained by heating milk and then allowing it to cool while the cream content rises to the top in coagulated lumps.
3	cream tea	c	a popular frozen dessert made of milk, cream, sugar, sweeteners, flavourings, air and some other ingredients.
4	clotted cream	d	the thick white or pale yellow liquid that rises to the top when milk is left to stand and that can be eaten as an accompaniment to desserts or used as a cooking ingredient.
5	ice cream	e	soft, rich cheese made from unskimmed milk and cream.

Answers Key: 1-d, 2-e, 3-a, 4-b, 5-c.

6. Translate the text "Milk Products. Cream" into Ukrainian.

CULTURE NOTE 1

7. Read this culture note about clotted cream (by the company AHMAD TEA).

Clotted Cream (Густий крем) — англійська страва, що не має аналогів у жодній національній кухні, є чимось середнім поміж маслом, збитими вершками та густим пряженим молоком. У самій Британії ***clotted cream*** готують виключно з молока корів, яких випасають на луках південно-західних графств Девон, Корнуол та Сомерсет. За рівнем жирності ***clotted cream*** поділяють на одинарні, подвійні та пряжені. Саме "пряжені густі вершки", так приблизно можна перекласти назву цієї страви, подають протягом чаювання: додають у чай або, завдяки надзвичайній густоті, намазують на хліб.

За межами Великобританії знайти аналог ***clotted cream*** достатньо проблематично. Але ніщо ж не заважає дещо поекспериментувати та підібрати максимально близьку заміну. Наприклад, жирні сільські вершки.

8. Read the text "Clotted Cream" (A) and make up 5-7 questions to this text (B).

A. CLOTTED CREAM

1 Clotted cream is an English dish that has no analogies in

any national cuisine, and is something *middle* between butter, whipped cream and thick milk. In Britain itself, clotted cream is prepared exceptionally from the milk of the cows, which are grazed on the meadows of the counties of Devonshire, Cornwall and Somersetshire. According to the fat content, clotted cream is specified into single cream, double cream and thick cream. The very "baked thick cream" is served during tea-drinking: it is added to tea or due to its extreme thickness it is spread on bread.

Above: Clotted Cream.

2 To find an analogy of clotted cream beyond Great Britain is rather a problematic thing. But nothing prevents from making some experiment and finding a maximally close supply, for example, rich cottage cream.

B. *Making up questions.*

Model: Is clotted cream an English dish?

Does clotted cream have any analogies in the other cuisines?

What is clotted cream?

CULTURE NOTE 2

Cream tea is a special meal eaten in the afternoon, consisting of tea with scones, jam and thick cream. *Cream teas* are traditional in Devon and Cornwall and are now popular with visitors and tourists throughout Britain.

Scone – ячмінна або пшенична булочка, ячмінний коржик.

CONTROL QUESTIONS

9. Answer the following questions about cream.

1. How is cream derived?
2. What machine can cream of any desired fat content be received in?
3. How can creams be specified?
4. Do you like cream?
5. What is cream tea?

Тема: **ICE-CREAM**

CLILs: biochemistry of milk, technology of milk and dairy products

Text A

Warm-up

1. Answer these questions.

1. Do you like ice-cream?
2. What is your favourite ice-cream?

Reading

2-A. Read and translate the text "Ice-Cream Manufacture at Bila Tserkva Dairy Processing Plant".

ICE-CREAM MANUFACTURE
AT BILA TSERKVA DAIRY PROCESSING PLANT

The ingredients for the production of ice-cream (chocolate coated) are usually as follows: sugar, skimmed milk powder, milk fat, cream, vegetable oil, cocoa powder, flavourings, stabilizer, emulsifier, water, sometimes – sweeteners, starch, and caramel.

The ingredients are received into a reception basin for composing the mixture according to a formula (recipe).

The mixture goes through such processes as: homogenization, pasteurization, cooling, ripening (maturing), freezing, forming (shaping), hardening, wrapping. Then a finished product comes in for storage.

Storage life is six months at temperature minus 24 deg C.

Energy value is 149 kcal. Nutrition facts: 100 g of the product contain 3,3 g – proteins; 8,0 g – fats; carbohydrates – 16,0 g.

Speaking

2-B. Discuss the following questions in pairs.

a. What are the main ingredients for ice-cream?

b. Where are the ingredients received?

c. What are the main technological processes in ice-cream manufacture?

d. What is the usual storage temperature for ice-cream?

e. Do you like ice-cream?

f. Do you prefer ice-cream in a cup, in a cone, or Eskimo?

Key Words

3. Copy and learn the following key words and word combinations.

ingredients	інгредієнти
manufacture / production	виробництво
milk fat / butterfat	молочний жир
skimmed milk powder	сухе збиране молоко
flavouring	ароматизатор
sweetener	наповнювач
stabiliser	стабілізатор
starch	крохмаль
emulsifier	емульгатор
to be received	отримуватися
reception basin	приймальна ванна
according to	згідно з
formula / recipe	формула, рецепт
cooling	охолодження
hardening	закалювання, затвердіння
ripening / maturing	визрівання
freezing	заморожування
forming	розфасовка, надання форми
wrapping	обгортка
to come in for	надходити на
storage life	строк зберігання
energy value	енергетична цінність
to contain	містити
as follows	наступний, наступні
such as	такий як, такі як
to age	визрівати
to add	додавати
bulky	громіздкий
to blend	змішувати
mix / mixture	суміш

4. What ingredients can be used for ice-cream manufacture?

Ingredients for ice-cream

milk молоко	**skim milk** збиране молоко	**air** повітря	**water** вода
cream вершки	**additives** домішки	**milk fat (butterfat)** молочний жир	**starch** крохмаль
emulsifier емульгатор	**sweetener** наповнювач	**flavouring** ароматизатор	**colouring agent** барвник

cocoa powder какао-порошок	**eggs** яйця	**vegetable oil** рослинна олія	**jam** джем
stabiliser стабілізатор	**carob (gum, guar)** камідь рожкового дерева (гуар)	**nuts** горіхи	**whole milk** незбиране молоко

Speaking

5. Read about the main steps in ice-cream processing. Using this information tell about the technology of ice-cream manufacture.

Ice-Cream Processing Steps

- Blend Ingredients.
- Pasteurize Mix.
- Homogenize.
- Age Mix.
- Add Liquid Flavours and Colours.
- Freeze.
- Add Fruits, Nuts and Bulky Flavourings (e.g. candy pieces, nuts).
- Package.
- Harden.

Text B

Reading

1. If you want to learn more about ice-cream, its history, standards for ice-creams in the USA, read the text "Ice-Cream".

ICE-CREAM

1 Ice-cream is a popular frozen food made from varying mixtures of cream and milk, sweeteners, flavourings, and air. The air is beaten into the milk mixture as it freezes, making the final product light and spoonable. Other ice-cream ingredients range from the eggs used in rich French ice-creams to the stabilisers and emulsifiers that are added to many commercial ice-creams. Stabilisers prevent large ice-crystals from forming. Emulsifiers are added to smooth and fill and render the ice-cream mixture more whippable.

2 The differences between ice-creams are a product of quality, richness and freshness of the ingredients. An economy ice-cream may use more dried milk .products and a lower percentage of milk fats. It will often contain large amounts of stabilisers and emulsifiers and will have a higher volume air. A high-quality ice-cream is denser and less airy. It will use fresh whole products, contain 16-20 per cent milk fat, and use additives sparingly, if at all. Natural ice-creams avoid artificial flavourings and additives, although they do use natural products to emulsify and stabilise.

3 In its standards for various frozen milk desserts, the U.S. Food and Drug Administration (FDA) requires that ice-cream contain at least 10 percent milk fat by weight. Ice milk contains between 2 percent and 7 percent milk fat, and sherbet milk fat content is 1-2 percent. Maximum amounts of stabilizers and emulsifiers are also regulated.

4 The confection may have been introduced to Europe in 1295, when Marco Polo returned to Italy from the Far East with a recipe for a frozen dessert that included milk. Italy is credited with popularizing the dish. The first ice-cream factory was built (1851) By Baltimore milk dealer Jacob Fussell, and the industry therefore grew rapidly. Today, Americans consume some 16.5 quarts per capita annually. Other popular frozen desserts similar to ice-cream, but without the fat content, include water ices, sorbets, and frozen yogurts. Ice-creams made with little or no milk also become available.

Follow-up

2. TEST Decide whether the following statements are true or false.

1. Ice-cream is not a popular frozen dessert. T/F
2. The air makes the final product light and spoonable. T/F
3. Commercial ice-creams use a lot of stabilizers and emulsifiers. T/F
4. An economy ice-cream uses less dried milk products. T/F
5. A high quality ice-cream will use fresh whole products. T/F
6. Natural ice-creams don’t use emulsifiers and stabilizers. T/F
7. The first ice-cream factory in the U. S. appeared in Boston. T/F
8. Ice-cream appeared in Europe in the 13th century thanks to Marco Polo. T/F

9. Americans don't like ice-cream. T/F

10. There are no standards for different frozen desserts in the U. S. T/F

3. Match the heading (Column A) with the paragraph (Column B).

A	B
a. The story of ice-cream industry.	Paragraph 1
b. The standards for the frozen milk desserts in the U. S.	Paragraph 2
c. Ice-cream ingredients.	Paragraph 3
d. The differences between ice-creams.	Paragraph 4

4.Word-building. The suffixes: ***–er****,* ***–ness****, and* ***–able****.*

Суфікси ***–er*** *and* ***–ness*** вживаються з іменниками; суфікс ***–able*** вживається з прикметниками. Наприклад, to speak (говорити) — speak**er** (спікер, оратор); open (відкритий) — open**ness** (відкритість); to read (читати) — read**able** (який можна прочитати).

Read and translate into Ukrainian the following groups of the words:

a) to stabilise — stabilis***er***, to emulsify — emulsifi***er***, to sweeten — sweeten***er***;

b) fresh — fresh***ness***, rich — rich***ness***;

c) spoon — spoon***able***, to whip — whipp***able***.

Speaking

5. Answer the questions to the text "Ice-Cream".

1. What ingredients are used for ice-cream manufacture?
2. Where are the differences between various ice-creams?
3. Who returned to Italy from the Far East with a recipe of ice-cream in 1295?
4. What are the other popular frozen desserts similar to ice-cream?
5. When and where was the first ice-cream factory built?
6. The standards for different ice-creams require a certain milk fat content by weight, don't they?
7. Americans are the most fervent ice-cream eaters in the world. How much ice-cream do they consume per capita every year?

Key Words

6. Learn the following key words and word combinations.

to vary	змінюватися, варіювати
mixture	суміш
to freeze	заморожувати
a frozen dessert	морожений десерт
the final product	кінцевий продукт
to beat air into	насичувати повітрям
light	легкий, повітряний
spoonable	пластичний
to range from …….. to	коливатись від …….. до
to be added to	додаватись до
commercial	комерційний, прибутковий
rich	жирний, збитий, густий
to prevent from (-ing)	запобігати (чогось); чинити перепони
to form	утворювати, надавати форму
whole	незбираний
high quality	високоякісний
emulsifier	емульгатор
sweetener	наповнювач
stabiliser	стабілізатор
flavouring	ароматизатор
to smooth (out, down, over, away)	робити однорідним
to fill	наповнювати; заповнювати
to render	робити; доводити до певного стану
whippable	збитий; гнучкий
a higher volume of	більший об’єм, більша маса
dense	густий, щільний
additive	домішка
sparingly	помірно; скудно
confection	солодощі; виготовлення солодощів
to be credited with	приписувати (комусь, щось)
dealer	торговець, дилер
thereafter	після цього; відповідно
to grow rapidly	швидко зростати
to consume	споживати
sherbet	шербет
sorbet	фруктове морозиво
if at all	якщо і …….. то тільки
to avoid	уникати
milk fat	молочний жир
content	вміст, об’єм
to contain	містити
Food and Drug Administration	Управління по санітарному нагляду

(FDA)	за якістю харчових продуктів і медикаментів (США)
quart (qt) = ¼ gallons = 2 pints = 1.14 litres *British Imperial*; *US* quart = 0.833 British quart = 0.946 litres	1 кварта = ¼ галона = 2 пінти = 1.14 літри в Британській системі об'єму; 1 американська кварта = 0.833 британської кварти = 0.946 літрів

Тема: **YOGURT MANUFACTURE**

CLILs: biochemistry of milk, technology of milk and dairy products

Warm-up

1. Answer these questions.

1. Is yogurt a cultured milk product?
2. What other cultured milk products do you know?
3. Do you like yogurt?
4. Do children like yogurt?

Pre-reading the text

3. Practice in reading the following temperature measurements and their abbreviations.

deg C	degrees Centigrade/Celcius	˚C	градуси Цельсію
5 deg C	five degrees Centigrade/Celcius	5˚ C	
44 deg C	forty-four degrees Centigrade	44˚ C	
90 deg C	ninety degrees Centigrade	90˚ C	
deg F	degrees Fahrenheit	˚F	градусів по Фаренгейту
40 deg F	forty degrees Fahrenheit	40˚ F	
111 deg F	one hundred and eleven degrees Fahrenheit	111˚ F	
194 deg F	one hundred and ninety four degrees Fahrenheit	194 ˚F	

Reading

4. Read the text "Yogurt" and tell which paragraph tells about yogurt manufacture.

YOGURT

1 Yogurt is a fermented, slightly acidic food product made from milk. Its origins are unknown (although the name comes from the Turkish), and it resembles the many other fermented milk foods made throughout the world, such as *kefir* and *kumiss*. Unlike many of these foods, however, yogurt is usually made from concentrated milk and is soured by a specific bacillus, *Lactobacillus bulgaricus*.

2 The food has recently become popular as a pleasant, low-calorie alternative to ice-cream. The introduction of fruit yogurt during the 1940s revolutionized the market, until recently yogurt sales increased by 20 percent or so every year.

3 Mass-processed yogurt is made by heating concentrated milk, or milk fortified by skim milk powder, to about 90 deg C (194 deg F) for a few minutes, then cooling it to about 44 deg C (111 deg F), at which point a controlled culture of *Lactobacillus bulgaricus* and *Streptococcus thermophilus* is added. These two lactic organisms produce the required acidity and the delicate yogurt flavour. Souring and thickening take place in about 3 hours at 44 deg C (111 deg F), and stop when mixture is cooled to 5 deg C (40 deg F). Because the milk has been heated and soured, and because of its high acidity, pathogens cannot grow in yogurt, and it is probably the safest of all perishable foods. Well-made yogurt of any type should last for 14 days if kept at 5 deg C (41 deg F).

Follow-up

Speaking / *CONTROL QUESTIONS*

5. Work in pairs. Answer the questions to the text "Yogurt".

1. What kind of food product is yogurt?
2. What other milk products does yogurt resemble?
3. Is concentrated or fresh milk used for making yogurt?
4. Is yogurt a popular food nowadays?
5. Yogurt is a pleasant, low-calorie alternative to ice-cream, isn't it?
6. What technological processes are used for mass yogurt manufacture?
   (E.g., heating concentrated milk to about 44 deg C, cooling to …….. , adding …….. , etc.)

7. What is the storage life of yogurt?

Writing

6. Make up a plan to the text "Yogurt".

Paragraph 1 _____

Paragraph 2 _____

Paragraph 3 _____

7. Translate in writing the text "Yogurt" into Ukrainian. *Above:* Frozen Yogurt

Vocabulary Practice

Key Words

8. Learn the following key words and word combinations.

yogurt	йогурт
fermented	ферментований, викликаний бродінням
slightly	злегка
acidic	кислуватий, кислий
origins	походження
to come from	походити від
Turkish	тюркська (мова)
to resemble	нагадувати
koumiss / kumiss	кумис
to be soured	заквашуватися, окислюватися
bacillus (bacilli)	бацила (бацили)
Lactobacillus bulgaricus	болгарська паличка
Streptococcus thermophilus	термофільний стрептокок
yogurt sales	продаж йогурту
to increase	зростати
heating	нагрівання
fortified	збагачений
skim milk powder	сухе збиране молоко
cooling	охолодження
point	точка
a controlled culture	контрольована культура; чиста культура
a lactic organism	молочний організм
the required acidity	необхідна кислотність
delicate flavour	ніжний/тонкий смак
souring	заквашування, окислення
thickening	загущення, осідання
perishable foods	харчові продукти, що швидко псуються
to take place	проходити
safe	безпечний

pathogen	патоген
to last	тривати
cultured milk products	кисломолочні продукти

9. Production of Yogurt. Fill in the suitable words from the box.

technology,	low-calorie,	skim,	cooling,	controlled,
Streptococcus,	thickening,	deg,	concentrated,	flavour

PRODUCTION OF YOGURT

I'd like to tell you about yogurt *"Dyvyna"*. This yogurt is produced in Kyiv dairy processing company *Galakton*. The trademark of yogurt is *Balans*.

The ____*1*____ of yogurt manufacture is as follows: heating ____*2*____ milk (temperature is 90 deg C, time is a few minutes); first ____*3*____ to 44 deg C; adding at this point a ____*4*____ culture of Lactobacillus bulgaricus and ____*5*____ thermophilus; souring and ____*6*____ , time is 3 hours at 44 deg C; second cooling to 5 deg C; packaging.

The ingredients for this yogurt are as follows: concentrated milk, ____*7*____ milk powder, cheese, sour-cream, sugar, stabilizer, a peach sweetener.

The optimal storage life is 14 days at 5 ____*8*____ C. Yogurt is a pleasant, ____*9*____ food product. It has a delicate ____*10*____ . Yogurt is a slightly acidic food product. It is useful for children, students, and elderly people. Its energy value is 157 kcal. It contains: proteins — 12, 6 per cent, fats — 6, 5 per cent, carbohydrates — 12, 1 per cent.

Answers Key: 1 – technology, 2 – concentrated, 3 – cooling, 4 – controlled, 5 – Streptococcus, 6 – thickening, 7 – skim, 8 – deg, 9 – low-calorie,10 – flavour.

Тема: **BUTTER AND MARGARINE MANUFACTURE**

CLILs: biochemistry of milk, technology of milk and dairy products, technological equipment

Warm-up

1. Answer the questions.

1. Do you often use butter, margarine or spreads?
2. Which of these foods is the healthiest? Why?
3. What countries in the world are the largest producers of butter?

Key Words

2. Read and learn the following words and word combinations.

butter	масло
margarine	маргарин
manufacture	виготовлення
production	виробництво
cream	вершки
to churn	збивати, збовтувати
a rotating drum	обертаючийся барабан
so that	щоб; для того, щоб
fat globule	жирова кулька
to separate	відокремлювати
liquid	рідинний
butter-milk	сколотини; пахта
milk fat / butterfat	молочний жир
salt	сіль
substitute	замінник
mixture	суміш
brine	розсіл; охолоджуючий соляний розчин
edible	їстівний
almost	майже
crate	ящик

Reading

2. Read the text "Butter and Margarine".

BUTTER AND MARGARINE

Butter. Butter is made by churning cream in a rotating drum so that the fat globules separate from the liquid butter-milk. Butter must contain about 80 per cent milk fat and not more than 16 per cent water. During manufacture 1-2 per cent of salt is added to salted butter.

Margarine. It is not a dairy product but a butter substitute made by homogenizing a mixture of oils and fats with brine. Almost any edible oil can be used for margarine.

Practice Stage

Speaking / *CONTROL QUESTIONS*

3. Discuss the questions in pairs.

1. How is butter made?
2. How much milk fat must butter contain?
3. Butter mustn't contain more than 16 per cent water, must it?
4. Is margarine a dairy product?
5. How is margarine made?
6. What oils can be used in margarine manufacture?

4. Watching a presentation. Do you want to know more about butter manufacture? Then watch this presentation: BUTTER MANUFACTURE

5. Butter Manufacture. Match captions to pictures. Some pictures are for 1 caption.

A _____

B _____

C _____

D _____

E _____

F _____

G _____

H _____

I _____

J _____

Caption 1

Milk reception (from a milk tanker). / Прийомка молока (з молоковоза).

Caption 2

The workshop of reception and apparatus with cream separators.

Приймально-апаратний цех з сепараторами – вершковідділювачами.

Caption 3

The butter manufacturing (creamery) workshop. The tanks with raw cream.

Масло-цех. Танки з сирими вершками.

Caption 4

The butter manufacturing workshop. Pasteurizing and cooling plant (equipment).

Масло-цех. Пастерізаційно-охолоджувальна установка.

Caption 5

The tanks with pasteurized cream, where it goes through ripening, and then heating before churning (whipping).

Танки з пастеризованими вершками, де вони проходять дозрівання, і потім підігрів до збивання.

Caption 6

Butter churn (a creamery butter machine) for continuous churning of cream and for the forming of the butter grains (for continuous butter making).

«ФБЦ» (машина) – для безперервного збивання вершків і формування масляного зерна.

Caption 7

Separating of buttermilk. / Відділення пахти (маслянки).

Caption 8

Butter comes in onto the packing automat, where the packing of branded butter in 250 g packets takes place; then manual packaging takes place – into crates.

Масло поступає на фасувальний автомат, де проходить фасування масла в брикети; потім — ручне фасування — в ящики.

Project / Speaking

6. Imagine that you have a guest (a food technologist or a business partner). Be ready to tell him / her about butter manufacture in Ukraine.

Тема: **TECHNOLOGY OF CHEESE-MAKING**

CLILs: technology of milk and dairy products.

Warm-up

1. Say 'cheese'. ☺

Reading

2. Read and translate the text "Cheese".

CHEESE

1 Cheese is a very nutritional food product. It is rich in protein and is a good source of vitamins and minerals such as calcium, phosphorus, and vitamin A. Cheese is high in calories, saturated fat, and sodium.

2 Cheese is formed by coagulation of milk by rennet or other similar enzymes, and the draining off of the liquid whey. When rennet is added to warm acidified milk, the milk protein casein coagulates to form a firm curd which is treated in various ways to make cheeses of different kinds.

3 The curd can undergo cutting, warming up, or pressing. Then it is usually shaped into a mold and ripened by storing for some time at a particular temperature and humidity. The ripening, or curing, process is the result of bacteriological processes.

4 For cheese-making they use milk from cows, sheep, goats, the buffalo, reindeer, horses, yaks.

5 Hard cheeses are the most popular among cheese. The largest producers of hard cheese are the USA, France, Italy, Germany, Russia, Canada, the Netherlands, Denmark, Mexico and Argentina. In Ukraine hard cheese and cottage cheese are among the favourites.

Follow-up

3. Match the paragraph (A) to its heading (B).

A		B
Paragraph 1	a	The largest producers of cheese.
Paragraph 2	b	Animals, whose milk is used for cheese-making.
Paragraph 3	c	A nutritional food product.

Paragraph 4	d	How is cheese formed?
Paragraph 5	e	The main technological processes in cheese-making.

Speaking / *CONTROL QUESTIONS*

4. Answer the questions to the text "Cheese".

a. Why is cheese a very nutritional product?

b. How is cheese formed?

c. What processes can cheese undergo after adding rennet?

d. The milk of which animals can be used for cheese-making?

e. What countries are the largest producers of hard cheeses?

f. Do you like cheese?

Vocabuary Practice

5. Copy and learn the following key words and word combinations.

whey [wei]	сироватка; сколотини
to be formed (by)	утворюватися, формуватися
to coagulate	коагулювати
rennet	сичуг
similar	подібний, схожий
enzyme	ензим, фермент
draining off	відкачування, вижимання
liquid	рідинний
to be added (to)	додаватися (до)
acidified milk	ацидофільне молоко
to form / to shape	надавати форму; формувати; утворювати
firm	твердий
curd	згусток
to be treated	оброблятися
kind	вид
way	шлях, спосіб, метод
to undergo	підлягати
cutting	нарізування, розрізання
warming up	нагрівання, підігрівання
pressing	пресування, вижимання
mold	пліснява; форма
to be ripened	визрівати
storing	зберігання
particular	певний
humidity	вологість
ripening	визрівання

curing	заготівля
cheese-making	виготовлення сиру
buffalo	буйвол
reindeer	північний олень (олені)
saturated fat	насичений жир
sodium	натрій
producer	виробник
hard cheese	твердий сир
cottage cheese	зернений творог
among	серед
vessel	посудина
to pump	накачувати
acid	1. кислота; 2. кислий
lactic acid	молочна кислота
to sour	окислювати; заквашувати
vegetable dye	барвник рослинного походження

6. Fill in the blanks with the words from the box and you will learn some information about Cheddar, the most important cheese in many English-speaking countries.

milk cheese lactose cooling production bacteria culture colour

PRODUCTION OF CHEDDAR

Cheddar is an important *1*_____ type in the United States, Britain, Australia, Canada, and New Zealand. The Cheddar *2*_____ process employs nearly all the basic treatments used in modern cheese-making.

In the factory *3*_____ is pasteurized at about 70 degrees C (158 degrees F) to kill all the pathogenic *4* _____ . After *5*_____ to about 30 degrees C (86 degrees F), it is pumped into the cheese vat, a closed cylindrical vessel. Here it is mixed with the starter, which is a *6*_____ of lactic streptococci and other organisms. These organisms sour the milk by fermenting the *7*_____, or milk sugar, to lactic acid, in order to create the acid conditions necessary for the rennet to act. Cheddar blocks weigh about 18 kg, they cure at temperatures of about 10 degrees C (50 degrees F).

Cheddar cheese is considered mature at 3 months, but a well-matured Cheddar should be kept for 12 months or longer. A good Cheddar should be without holes or cracks, creamy white or yellow in *8* _____, and have a mild cheesy odor.

Cheddar is sometimes colored red orange by adding annatto, a vegetable dye, to the milk.

Answer Key: 1- cheese, 2 – production, 3 – milk, 4 – bacteria, 5 – cooling, 6 – culture, 7 – lactose, 8 – colour.

VOCABULARY TEST

7. Variety Cheeses. Find as many kinds and names of cheeses.

a	h	a	r	d	d	o	k	l	m	n	hard	
c	o	p	q	u	s	o	f	t	u	v	soft	
h	p	a	r	m	e	s	a	n	w	x	semi-soft	
e	c	a	m	e	m	b	e	r	t	y	in brine	
d	z	a	b	r	i	c	o	t	t	a	cottage	cheese
d	c	c	h	e	s	h	i	r	e	d	ricotta	
a	e	f	g	h	o	i	j	k	l	m	Camembert	
r	o	q	u	e	f	o	r	t	n	o	Cheshire	
p	q	c	o	t	t	a	g	e	s	t	Cheddar	
u	n	r	i	p	e	n	e	d	u	v	Parmesan	
w	x	y	e	n	i	r	b	n	i	z	Roquefort	
p	e	l	m	e	c	h	e	e	s	e	un-ripened	

Тема: **CHEESE-MAKING AND VARIETY CHEESES**

CLILs: biochemistry of milk, technology of milk and dairy products

Pre-reading/ Get ready!

1. Before you read the passage, talk about these questions.

1. Which types of cheeses are popular in your country?
2. What type of cheese do you prefer?
3. Is there a cheese-making plant in you town / village?

Reading

2. Read the text "Cheese-making and Variety Cheeses". Decide:

A *which paragraphs of the text tell about the history of cheese-making?* _____

B *which paragraphs of the text tell about variety cheeses?* _____

CHEESE-MAKING AND VARIETY CHEESES

1 Cheese-making dates from 2000 B.C. It is believed that Arabia is the birthplace of cheese-making. The Romans developed a large cheese industry, and later became a specialty of monasteries. Many European abbeys developed secret recipes, and particular varieties began to be developed in certain regions of Europe.

2 Until 1850 most cheese was produced in small dairies. The first cheese-making factories were merely enlarged forms of the farmhouse dairy. Gradually the equipment became larger and more mechanized. Since 1945 cheese-making equipment and methods have changed radically.

3 Nowadays it is impossible to state the number of varieties of cheeses (they mention about 700 varieties of cheeses).

4 It is interesting to know, that the names of cheeses are usually associated with a town or region.

5 However, cheeses can be classified into major categories, according to the following characteristics: type of milk used — cow's milk, sheep's milk (*Roquefort*), or goat's milk (*Chevre*); degree of hardness — very hard (*Parmesan*); hard without eyes (*Cheddar*) or with eyes (*Gruyere*); semi-soft (*Muenster*); ripened by interior mold (*Gorgonzola*); ripened by exterior mold (*Camembert*). Soft cheeses are the un-ripened *cottage cheese* and *ricotta* types. They don't undergo the maturing process. There are also cheeses that are ripened by surface bacteria (*Limburger*); cheeses that are made by plasticizing the curd in hot water (*Caciocavallo*); cheeses that are salted by adding salt to the curd (*Chesire*), or there is the cheese that is immersed in brine (*St. Paulin*).

6 Herbs, seeds, alcoholic beverages, and vegetable dyes may also be incorporated.

Grammar / Writing

3. **A** *In the text find the sentences with the passive voice.*

to be + past participle

B *Make questions to the following sentences with the passive voice.*

Model: Until 1850 most cheese *was produced* in small dairies. —

Was most cheese produced in small dairies until 1850?

Where was most cheese produced until 1850?

1. The names of cheeses *are* usually *associated* with a town or region.

Are _____?

What are _____?

2. Cheeses *can be classified* into major categories.

Can _____?

How can _____?

3. Some cheeses *are ripened* by surface bacteria (Limburger).

Are any _____?

How are _____?

4. Some cheeses *are made* by plasticizing the curd in hot water.

Are _____?

Are _____ *in hot or cold water*?

5. Herbs, seeds, and vegetable dyes *may* also *be incorporated*.

May _____?

What may _____ *by cheese-making*?

Vocabulary Practice

4. Learn the following key words and word combinations.

cheese-making	виробництво сиру
variety	різноманіття
to develop	розвивати; розробляти
specialty	фірменна страва
recipe	рецепт
dairy	молочарня
gradually	поступово
to state	вказувати
impossible	неможливий
number	кількість
according to	згідно за
interior mold	внутрішня пліснява
exterior mold	зовнішня пліснява

degree of hardness	міра / ступінь твердості
hard cheese	твердий сир
to ripen	визрівати
ripening / maturing	визрівання
ripened	зрілий; стиглий
un-ripened cheese	незрілий сир
soft cheese	м'який сир
semi-soft cheese	напівтвердий сир
brine	розсіл
to immerse	занурювати
to incorporate	додавати
salted	солоний
unsalted	несолоний
to placticize	пластифікувати
curd	сирний згусток, сир
to add	додавати
herbs	трави
seeds	зерна, насіння
beverage	напій
vegetable dye	барвник рослинного походження

5. Find in the text the English equivalents for the following names of cheeses:

Рокфор, шевр, пармезан, чеддер, грюйєр, мюнстер, горгонзола, камембер, касіокавалло, творог, рікотта, лімбургер, чеширський, санпаулін.

TEST

6. Choose the correct answer.

1. Cheese-making dates from _____ .

a. 2000 B.C. b. 2500 B.C. c. 200 A.D. d. 18th century

2. It is believed that _____ is the birthplace of cheese-making.

a. Africa b. America c. Arabia d. Australia

3. The _____ developed a large cheese industry.

a. Parisians b. British c. Arabians d. Romans

4. Since 1945 cheese-making equipment and methods have changed _____.

a. radically b. slowly c. traditionally d. quickly

5. It is _____ to state the number of cheeses produced nowadays.

a. possible b. impossible c. interesting d. unlikely

6. Roquefort is made of _____ milk.

a. cow's b. sheep's c. reindeer's d. goat's

7. Chevre is made of _____ milk.

a. cow's b. sheep's c. reindeer's d. goat's

8. Cottage cheese and ricotta are soft cheeses, they are _____ types.

a. ripened b. salted c. unsalted d. unripened

Answers Key: 1-a, 2-c, 3-d, 4-a 5-b, 6-b, 7-d, 8-d.

Speaking / *CONTROL QUESTIONS*

7. Answer the following questions.

1. How old is cheese-making?
2. Did cheese-making become a specialty of monasteries in Europe?
3. Where was most cheese produced until 1850?
4. How and when did cheese-making equipment and methods change?
5. How many types of cheeses are there nowadays?
6. How can cheeses be classified according to the degree of hardness?
7. Which cheeses don't go the maturing (ripening) process?
8. What cheeses are produced in your country?

Тема: **LIQUID MILK MANUFACTURE**

CLILs: biochemistry of milk, technology of milk and dairy products, technological equipment.

Reading

*1. Read this advertisement of an Indian company **SSP Pvt. Limited*** about the Liquid Milk Processing Plant it sells. Which paragraphs tell about milk processing.*

LIQUID MILK PROCESSING PLANT

Milk is widely considered as one of the world's most valuable protein food. As a raw material, it is available in various forms, and it is processed into an ever increasing variety of nutritional products.

SSP offers Dairy Plant that includes small milk processing equipment for handling milk in litre capacity of 1.K-5Lac litres per day. A number of products like

ghee, butter, cream, toned milk, double toned milk, skimmed milk, can also be manufactured.

Milk is first received in a dump tank from the road milk tankers. It is then chilled in a chilling unit to 4°C. This chilled milk is then pasteurized in a milk pasteurizer and cream is separated from milk in by the cream separator to get skimmed milk.

Milk is standardized depending on the requirement of toned milk, skimmed milk or full cream milk. The separated cream is further processed to manufacture ghee and butter. The pasteurized skimmed milk, toned milk or double toned milk is sent for packing machine for various capacities like 1/2kg, 1kg pouches.

The plant will be in operation for 20 hours in a day.

(*From:* www.sspindia.com/liquid-milk-processing-plant.html)

*SSP Pvt. Limited** - since 1977.

Follow-up

TEST

2. Decide whether the following statements are true or false.

a. The text tells about the nutritional value of milk. T/F

b. The company SSP advertises Liquid Milk Plant for large processing milk capacities. T/F

c. We can get the various standards for milk at this Dairy Plant. T/F

d. The text tells about milk processing technology. T/F

e. The Dairy Plant is able to work 24 hours a day. T/F

3. Match a name (in Column A) to the paragraph number (Column B).

A	B
a. Standardization and kinds of milk	Paragraph 1
b. Milk as a nutritional product.	Paragraph 2
c. Dairy plant from SSP Company	Paragraph 3
d. Reception and processing of milk	Paragraph 4

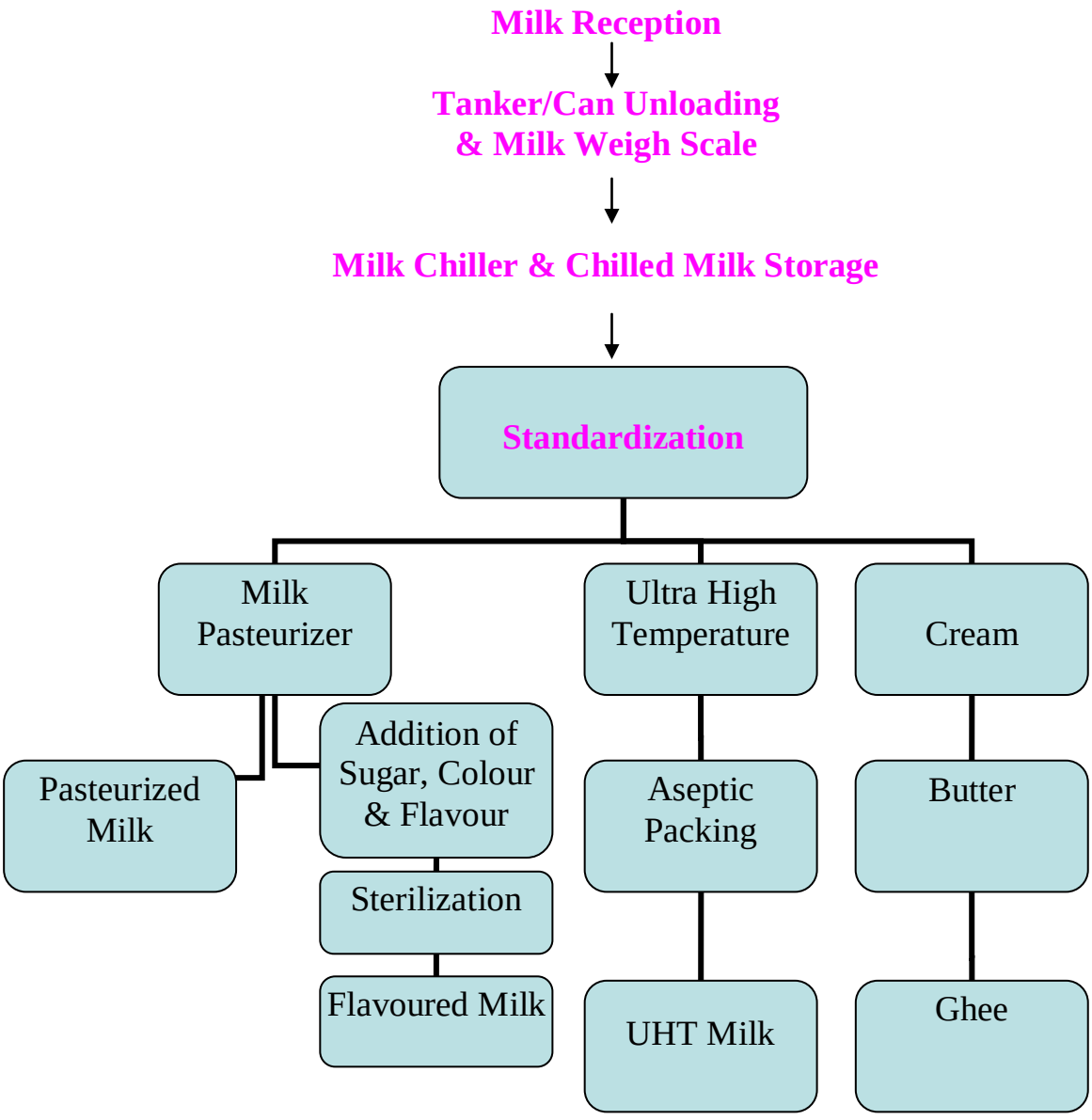
Vocabulary Practice

4. In the text "Liquid Milk Processing Plant" find and copy out the names of different equipment (machines) to produce liquid milk and other milk products.

5. Match the synonyms in the two columns.

A	B
a. dairy	1. ghee
b. processing	2. cooling
c. butter	*3. milk*
d. various	4. to produce
e. chilling	5. to specify
f. to manufacture	6. handling
g. to standardize	7. different

6. Study this diagram for Liquid Milk Processing.



7. Using the diagram from Exercise 4 find the English equivalents for the following words and word combinations that characterize liquid milk processing:

a) масло; b) пастеризатор молока; c) пастеризоване молоко; d) молоко ультра теплової обробки; e) вершки; f) стерилізація; g) асептичне пакування; h) стандартизація; i) прийомка молока; j) розвантажування танкеру (баку) чи

молочної каністри ; k) додавання цукру, кольору і смаку; l) ультра висока температура; m) охолоджувач молока і зберігання охолодженого молока; n) ароматизоване молоко; o) топлене масло.

Speaking / *CONTROL QUESTIONS*

8. Work in pairs. Discuss the following questions.

1. Is milk widely considered as one of the world's most valuable protein food?
2. Is milk processed into an increasing variety of nutritional products?
3. What is the capacity of a dairy plant that SSP Company offers?
4. What dairy products can be manufactured at this plant?
5. Is milk first received in a dump tank from the road milk tankers?
6. What temperature is milk then chilled at?
7. Where is milk pasteurized?
8. What machine is cream then separated to get skimmed milk by?
9. How is then milk standardized?
10. Will the dairy plant in operation 20 or 24 hours in a day?

Key Words

*9. **A** Learn the following key words and word combinations.*

liquid milk	питне молоко
to be widely considered as	широко вважатися як
valuable	цінний
raw material	сировина
available	наявний
various forms	різноманітні форми
to be processed	перероблятися
further	далі; в подальшому
to offer	пропонувати
milk processing equipment	обладнання для переробки молока
handling milk	обробка молока
capacity	потужність
per day	в день
a number of	велика кількість
ghee	топлене масло (з молока буйволиць)
toned milk*	тоноване молоко
double toned milk*	подвійне тоноване молоко
cream butter	вершкове масло
flavoured milk	ароматизоване молоко
to manufacture	виготовляти, виробляти

to be received	отримуватися
a dump tank	зливна ємкість
a milk tanker	молоковоз
a road milk tanker	автоцистерна
can	каністра
unloading	вивантаження
to be chilled	охолоджуватися
a chilling unit	охолоджувальна установка
chilled milk	охолоджене молоко
to be separated from	відокремлюватися
a milk pasteurizer	пастеризатор молока
a cream separator	сепаратор вершків
to be standardized	стандартизуватися
depending on	залежачи від
requirement	вимога
full cream milk	жирне молоко з вмістом всього жиру
to be sent for	відправлятися на / для
packing in	пакування в
pouch	пакет; сумка; мішечок
a packing machine	пакувальна машина
to be in operation	працювати, діяти

B *Read this information about some new dairy foods — toned milk and double toned milk* (*from:* answers.yahoo.com>question/index… *and* AzaQuar.com).

What is **toned milk**?

— **Double toned milk** is very low fat.

— **Single toned milk** has some little more fat.

— The milk toned one time then the fat content will be 70% and the two time-toned milk has only 40% fat.

— Toning of milk is the process by which fat from milk is removed, first the whole milk is emulsified with the help of ultra-centrifugators / boilers etc., and then layer of fat is formed at surface, and then removed /, if removed one it is single toning, if the same process is applied twice, it is called double toning.

— **Toned milk** — also called single toned milk — it is milk obtained by the addition of water and skim milk powder to whole milk.

Project

10. Prepare a short report / some information about toned milk. What countries of the world is toned milk produced in?

Тема: **DAIRY PROCESSING PLANT**

CLILs: technology of milk and dairy products, technological equipment, economics, basics of dairy-processing plant's project

Warm-up

1. Answer these questions.

1. Are there any dairy processing plants in your town / *or* village?
2. What are the most well-known / *or* important milk processing plants in your region / in Ukraine?

2. Read and learn the following key words and word combinations.

dairy processing plant	молочно-переробний завод
milk processing plant	молочно-переробний завод
local	місцевий
workshop	цех; майстерня
production section / department	виробничий відділ / цех
trademark	торгова марка
premises	приміщення
accounting department	бухгалтерський відділ
Sales and Distribution department	відділ продажу і збуту
compressor department	компресорне відділення
refrigerating storage room	холодильний цех (для зберігання продукції)
warehouse	склад
milk reception	прийомка молока
pouring out	розлив
sour-cream	сметана
raw milk	сире молоко
to check up	перевіряти
finished milk products	готові молочні продукти
to produce	виготовляти
cream cheese	творог; творожний сир
to process	переробляти
market of distribution	ринок збуту
to introduce	вводити
to install	встановлювати
modern equipment	сучасне обладнання
competitor	суперник
logo	логотип
specializing	що спеціалізується

Reading

3. Read this text about Bila Tserkva Dairy Processing Plant 'VITA'.

BILA TSERKVA DAIRY PROCESSING PLANT 'VITA'

In Bila Tserkva, there are two dairy processing plants — companies VITA and BMK (Bila Tserkva Milk Combinat-Plant). The company VITA was founded in 1963, and the company BMK was founded in 2011 and it is one of the most modern milk processing plants in Ukraine specializing in producing bottled liquid milk and acidified milk products. The products of both companies are present at the local supermarkets. The BMK company's trade mark is BILA LINIA.

The students of our college often have training and professional practices at the company 'VITA'. This company has two trademarks — 'Vita' and 'Frigo'. The company 'VITA' has such premises as: the administrative building with Director's Office, Accounting department, Sales and Distribution Section, the building of the Production workshops, a garage, a Compressor department, a Refrigerating storage room and two warehouses.

The dairy processing plant has five workshops:

- the workshop of milk reception and apparatus;
- the workshop for pouring out milk products;
- the workshop of butter and sour-cream manufacture;
- the workshop for creamy cheese manufacture; and
- the workshop for ice-cream manufacture.

The company 'VITA' has two laboratories: chemical and bacteriological ones which control and check up raw milk and finished milk products. The plant produces such dairy products as: sterilized milk, pasteurized milk, butter, kefir, yogurt, butter milk, creamy cheese, ice-cream, riazhanka, sour cream.

The plant buys raw milk from local dairy farms and private farmers and processes it. Generally, the market of distribution is local. It includes Bila Tserkva and its district, sometimes Kyiv.

At the end of the 19903s the plant introduced some new technologies, and earlier that time, installed some new modern equipment (some technological lines) for the processing of yogurts, ice-creams and creamy cheese desserts. The plant also introduced production of some bio milk products.

Follow-up

Speaking / *CONTROL QUESTIONS*

4. Work in pairs. Answer the questions to the text "Bila Tserkva Dairy Processing Plant VITA".

1. How many dairy processing plants are there in Bila Tserkva?
2. What trademarks do these companies have?
3. When was Bila Tserkva Dairy Processing Plant VITA founded?
4. What premises does the company VITA have?
5. How many workshops are there at the plant?
6. What dairy foods does the plant produce?
7. What laboratories are there at the plant?
8. What are the main markets of distribution?
9. What do you think, is the company 'VITA' profitable?
10. What competitors does the company 'VITA' have?

Writing / Project

5. Imagine that you are working for a local dairy processing plant. Create a placard, maybe with logo of this plant. Write a short article about this plant for 'Dairy Industry' magazine.

Model of a logo: Life with VITA is dolce vita. (For the company 'VITA'.)

Model of a placard:

Above: Placard for an imaginary milk processing plant that produces ice-cream.

FOOD IDIOMS

Idiom	Meaning	Example sentence
apple of one's eye	a person that is adored by someone	Baby Janet is the apple of her father's eye.
(have) a bun in the oven	be pregnant	I don't think Karen will come to the bar because she has a bun in the oven.
bad egg	a person who's often in trouble	I don't want my little brother hanging around with the bad eggs in the street.
big cheese	very important person (VIP)	I thought I was just going to interview the secretary, but they let me talk to the big cheese himself.
bread and butter	necessities, the main thing	Just explain the bread and butter of your report. You don't have to go into details.
bring home the bacon	earn the income	My husband had to bring home the bacon ever since I lost my job.
butter someone up	be extra nice to some (usually from selfish reasons)	We'll have to butter Lora up before we tell her the news about the broken vase.
(have one's) cake and eat it too	want more than your fair share or need	Rick wants to have his cake and eat it too. He wants to be single but he doesn't want me to date anyone else.
carrot top	person with red or orange hair	Ashley is the first carrot top I've ever gone out with.
cheesy	silly	I love reading cheesy romance novels because I don't have to think.
cool as a cucumber	very relaxed	I thought I was afraid of flying, but I was cool as a cucumber all the way

		to England.
cream of the crop	the best	We hired the cream of the crop to entertain us at the New Year party.
(don't) cry over spilled milk	get upset over something that has happened and cannot be changed	The mirror is broken and we cannot fix it. There's no need to cry over spilled milk.
cup of joe	cup of coffee	Let's stop for a cup of joe before we head to work.
(not) my cup of tea	something you enjoy (usually used negatively)	Opera isn't exactly my cup of tea.
egg someone on	urge someone to do something	The gang tried to egg us on but we didn't want to fight.
full of beans	have a lot of (silly) energy	The kids were full of beans after the circus.
gravy train	extremely good pay for minimal work	The unionized grocers have been enjoying the gravy train for 20 years.
hard nut to crack	difficult to understand (often a person)	Alex is a hard nut to crack when somebody is bothering him like this.
hot potato	a controversial or difficult subject	Choosing a location for our new store is a hot potato right now.
in a nutshell	simply	In a nutshell, I'm having a bad day.
nuts about something, someone	(to) like a lot	I'm nuts about classical music these days.
one smart cookie	a very intelligent person	Your daughter is one smart cookie. She reads much higher than her grade level.

piece of cake	very easy	The exam was a piece of cake.
put all of one's eggs in one basket	to rely on one single thing	Even though I'm majoring in Art, I'm taking a math's course because my Dad says I shouldn't put all of my eggs in one basket.
souped up	made more powerful or stylish	The car was souped up with shiny rims and a loud stereo.
sell like hot cakes	bought by many people	The new Mr. Macaroni books sold like hot cakes.
spice things up	make something more exciting	I wanted to spice things up in the office, so I bought some red and gold paint.
spill the beans	reveal the truth	On Monday, I'm going to spill the beans about my travel plans.
take something with a pinch (grain) of salt	don't consider something 100% accurate	Take Molly's advice with a pinch of salt. She doesn't always do her research.
use your noodle	use your brain	You're going to have to really use your noodle on this crossword puzzle. It's an extra difficult one.

Food Idioms Quiz

1. Try this quiz to check your understanding of idioms based on food and foods. Fill in the spaces with the food idioms.

1. I just found out Emily has a _____ in the oven. I wonder if it's a boy or a girl.
2. The wine that I bought for dinner is the _____ of the crop.
3. Sausage rolls aren't my _____ _____ _____ I'm sorry to say.
4. When I go to the gym early I'm full of _____ for the rest of the day.
5. If you put all of your _____ in one basket, you might not get into any university.
6. Take everything you read on the Internet with a _____ _____ ____ and you'll be okay.

7. We had to _____ _____ the men before they would come swimming with us.

(From: *EnglishClub.com* [запит 24.12.2015])

Answers Key to Quiz: 1 – bun, 2 – cream, 3 – cup of tea, 4 – beans, 5 – eggs, 6 – pinch of salt, 7 – butter up.

MODULE QUESTIONS

ПИТАННЯ ДО МОДУЛІВ

- *Answer the following questions.*

MY FUTURE SPECIALTY

1. What is your specialty?
2. What is the name of your future profession?
3. Where can technicians-technologists of milk products work?
4. People drink milk for more than 4000 old, don't they?
5. What kinds of milk products do technicians-technologists study to produce?
6. What is your favourite milk product?
7. Would you like to continue your studies at the University?

NUTRITION: SOME DEFINITIONS

1. Which definitions does the text "Nutrition: Some Definitions" give?
2. What is food?
3. What types of nutrients are there in foods?
4. What do carbohydrates provide the body with?
5. Proteins provide amino acids for growth and repair, don't they?
6. What is energy?
7. Does the living body need vitamins to regulate its processes?

WATER. CONSTITUENTS OF FOOD

1. What drinks are good choices in an everyday well-balanced diet?
2. Where does water come from?
3. Do the kidneys regulate the balance of water in the body?
4. What foods contain dietary fibre?
5. All foods have certain characteristic flavours, colours and textures, don't they?

6. What drink is choice number one in everyday diet?
7. Do you drink a lot of water a day?

CARBOHYDRATES

1. Are carbohydrates present in different amounts in different foods?
2. What forms are carbohydrates found in?
3. How are sugars classified?
4. 'Added sugars' provide only calories, whereas foods with intrinsic sugars offer vitamins, minerals and fibre, don't they?
5. What are the healthy eating recommendations for an average man and a woman each day?

FATS

1. Is a small or a large amount of fat essential for good health?
2. How much of our daily energy intake should come from fat?
3. How many kilocalories are there in a 1 gram of fat?
4. What groups can fats be divided into?
5. What foods are the sources of saturated fatty acids?
6. Saturated fats tend to be solid at room temperature, don't they?
7. Are the unsaturated fatty acids solid or liquid?
8. What foods are the sources of monounsaturated fats?
9. What foods are high in polyunsaturated fatty acids?
10. Can all the fatty acids be made by the body?

MINERALS

1. What minerals are known as major minerals?
2. How much iron do healthy people contain?
3. What organs of the body is iron present in?
4. The important sources of iron are eggs, cereal products, potatoes and vegetables, aren't they?
5. Is calcium the most widely distributed mineral in the body?
6. What organs of the body is calcium present in?
7. What foods are the main sources of calcium?
8. Is phosphorus the first or the second wide-spread mineral in the body?

9. Phosphorus is present in nearly all foods, isn't it?
10. What minerals can be found in dairy products?

VITAMINS — FAT-SOLUBLE VITAMINS

1. What kinds of compounds are vitamins?
2. Why are vitamins necessary for the body?
3. Are vitamins necessary in large or small amounts in the body?
4. How are vitamins divided?
5. What vitamins refer to fat-soluble vitamins?
6. What fat-soluble vitamins are present in milk products?

WATER-SOLUBLE VITAMINS

1. What vitamins refer to water-soluble vitamins?
2. What roles do the B Complex vitamins play in nutrition?
3. Is vitamin B_1 the same as thiamin?
4. Riboflavin is vital for growth, healthy skin and eyes, isn't it?
5. Is vitamin B_2 present in green leafy vegetables and meat?
6. Does niacin play an important role in the release of energy from food?
7. How is sometimes pantothenic acid called?
8. What foods contain pantothenic acid?
9. What foods is pyridoxine found in?
10. Folic acid is involved in the manufacture of amino acids and in the production of red blood cells, isn't it?
11. Do grapefruit and oranges contain folic acid?
12. What is biotin needed for?
13. Is ascorbic acid or nicotinic acid the other name of vitamin C?
14. Where is mainly vitamin C found?

MILK

1. Does cow milk have all the constituents of nutritional importance for man?
2. What nutrients and vitamins does milk contain?
3. In a mixed diet milk is valuable for its content of high quality protein, isn't it?
4. Do they recommend skimmed and semi-skimmed milk products in a daily diet for adults?

5. Which milk is recommended for young children?
6. Is milk a basic product for the preparation of some breads, cakes and dairy products?
7. What dairy (milk) products do you know?

MILK PROCESSING

1. Are the fat globules broken up in homogenized milk?
2. What is the nutritional value of homogenized milk?
3. In skimmed milk almost all of its fat is removed, isn't it?
4. How much fat does semi-skimmed milk contain?
5. Is pasteurization of milk a form of heat treatment?
6. Is the temperature by milk pasteurization 72 deg C or 120 deg C?
7. How is sterilized milk prepared?
8. What is the temperature and time regime by milk sterilization?
9. Is evaporated milk prepared by the concentration of liquid milk at low temperatures?
10. What nutrients in milk are partially destroyed by heat processing?

MILK PRODUCTS. CREAM

1. How is cream derived?
2. What machine can cream of any desired fat content be received?
3. How can creams be specified?
4. Do you like cream?
5. What is cream tea?

ICE-CREAM MANUFACTURE

1. What are the main ingredients for ice-cream?
2. Where are the ingredients received?
3. What are the main technological processes in ice-cream manufacture?
4. What is the usual storage temperature for ice-cream?
5. Do you like ice-cream?
6. Do you prefer ice-cream in a cup, in a cone, or Eskimo?

YOGURT MANUFACTURE

1. What kind of food product is yogurt?

2. What other milk products does yogurt resemble?
3. Is concentrated or fresh milk used for making yogurt?
4. Is yogurt a popular food nowadays?
5. Yogurt is a pleasant, low-calorie alternative to ice-cream, isn't it?
6. What technological processes are used for mass yogurt manufacture?
7. What is the storage life of yogurt?

BUTTER AND MARGARINE MANUFACTURE

1. How is butter made?
2. How much milk fat must butter contain?
3. Butter mustn't contain more than 16 per cent water, must i
4. Is margarine a dairy product?
5. How is margarine made?
6. What oils can be used in margarine manufacture?

CHEESE-MAKING. VARIETY CHEESES.

1. Why is cheese a very nutritional product?
2. How is cheese formed?
3. What processes can cheese undergo after adding rennet?
4. The milk of which animals can be used for cheese-making?
5. What countries are the largest producers of hard cheeses?
6. Do you like cheese?
7. How old is cheese-making?
8. Did cheese-making become a specialty of monasteries in Europe?
9. Where was most cheese produced until 1850?
10. How and when did cheese-making equipment and methods change?
11. How many types of cheeses are there nowadays?
12. How can cheeses be classified according to the degree of hardness?
13. Which cheeses don't go the maturing (ripening) process?
14. What cheeses are produced in your country?

LIQUID MILK PROCESSING / LIQUID MILK PROCESSING PLANT

1. Is milk widely considered as one of the world's most valuable protein food?
2. Is milk processed into an increasing variety of nutritional products?

3. What is the capacity of a dairy plant that SSP Company offers?
4. What dairy products can be manufactured at this plant?
5. Is milk first received in a dump tank from the road milk tankers?
6. What temperature is milk then chilled at?
7. Where is milk pasteurized?
8. What machine is cream then separated to get skimmed milk by?
9. How is then milk standardized?
10. Will the dairy plant in operation 20 or 24 hours in a day?

DAIRY PROCESSING PLANT

1. Is there a dairy processing plant in your town?
2. What trademarks does this companies have?
3. When was this dairy processing plant founded?
4. What premises does this company have?
5. How many workshops are there at the plant?
6. What dairy foods does the plant produce?
7. What laboratories are there at the plant?
8. What are the main markets of distribution?
9. What do you think, is this company profitable?
10. What competitors does this company have?

ВИСНОВКИ

CONCLUSION

Методичні матеріали з іноземної мови (англійської мови) за професійним спрямуванням — English for Specific Purposes — зумовлені координацією навчальних програм з іноземної мови в України і впровадженням компетентнісного підходу у вивченні іноземних мов як в Україні, так і в Європі, за умовами якого передбачається якісне оволодіння мовними компетенція ми та уміннями спілкуватися як головні компетенції у контексті безперервної освіти випускників навчальних закладів. Ці компетенції співвідносяться з життєвими перспективами людини, відкриваючи українським студентам ширші можливості для працевлаштування за кордоном і в Україні.

Студенти, які навчаються за напрямом «Харчові технології» за спеціальністю «Зберігання, консервування і переробка молока», збагачуватимуть свій словниковий запас, ознайомляться з англомовною термінологією і спеціальною лексикою з обраної професії, розвиватимуть уміння читання і говоріння, отримають знання про певні країнознавчі реалії, розширять світогляд про виробництво традиційних і нових молочних продуктів, які виготовляють в Україні і в світі.

ТЕМАТИЧНИЙ ПЛАН
PLANNING OF THEMES

№ п/п	Назва розділу, модуля, теми програми	за навчальною програмою				за навчальною робочою програмою		
		всього	з них:			всього	з них:	
			тео-рія	ЛПЗ	СВ		ЛПЗ	СВ
1	2	3	4	5	6	7	8	9
1	**Перехідно-підготовчий етап.**	**22**		**14**	**8**	22	12	10
1.1	Іноземна мова – мова ділового спілкування.	6		4	2	6	6	
1.2	Мій навчальний заклад.	4		2	2	6	2	4
1.3	*Моя майбутня спеціальність.*	*6*		*4*	*2*	*4*		*4*
1.4	Мовленнєвий етикет спілкування.	6		4	2	6	2	4
2	**Базовий етап. Соціокультурний компонент. Лінгвокраїнознавство. Лексико-граматичний мінімум.**	**28**		**16**	**12**	28	6	22
3	**Ділова поїдка за кордон.**	**76**		**46**	**30**	76	28	48
4	**Професійно-орієнтований етап.**	**90**		**68**	**22**	90	34	56
4.1	*Хімічний склад продуктів та їх харчова цінність.*	6		4	2	6	4	2
4.2	*Вода, її роль у життєдіяльності живих організмів.*	4		4		4		4
4.3	*Вуглеводи. Їх біологічна роль. Класифікація вуглеводів.*	6		4	2	6	4	2
4.4	*Загальна характеристика жирів, їх властивості.*	4		4		4	4	
4.5	*Білки, їх амінокислотний склад. Структура, властивості, класифікація білків. Значення білків у харчових*	6		4	2	6	2	4

	виробництвах.							
4.6	*Мінеральні речовини, їх значення та поширення в продуктах харчування.*	6		4	2	6		6
4.7	*Вітаміни. Характеристика окремих представників водорозчинних та жиророзчинних вітамінів у продуктах харчування та їх значення.*	6		6		6	4	2
4.8	*Молоко та його харчова цінність.*	6		6		6	4	2
4.9	*Переробка молока.*	6		6		6	4	2
4.10	*Молочні продукти. Технологія виробництва вершків.*	4		2	2	4	2	2
4.11	*Технологія виробництва морозива.*	6		4	2	6	4	2
4.12	*Технологія виробництва йогурту.*	6		4	2	6	4	2
4.13	*Виробництво масла та маргарину.*	4		2	2	4		4
4.14	*Сири. Технологія виробництва.*	4		4		4	2	2
4.15	*Класифікація сирів.*	4		4		4	2	2
4.16	*Виробництво питного молока.*	6		2	4	6		6
4.17	*Основи проектування підприємств молочної промисловості.*	6		4	2	6	4	2
	В с ь о г о:	*216*		*144*	*72*	*216*	*94*	*122*

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