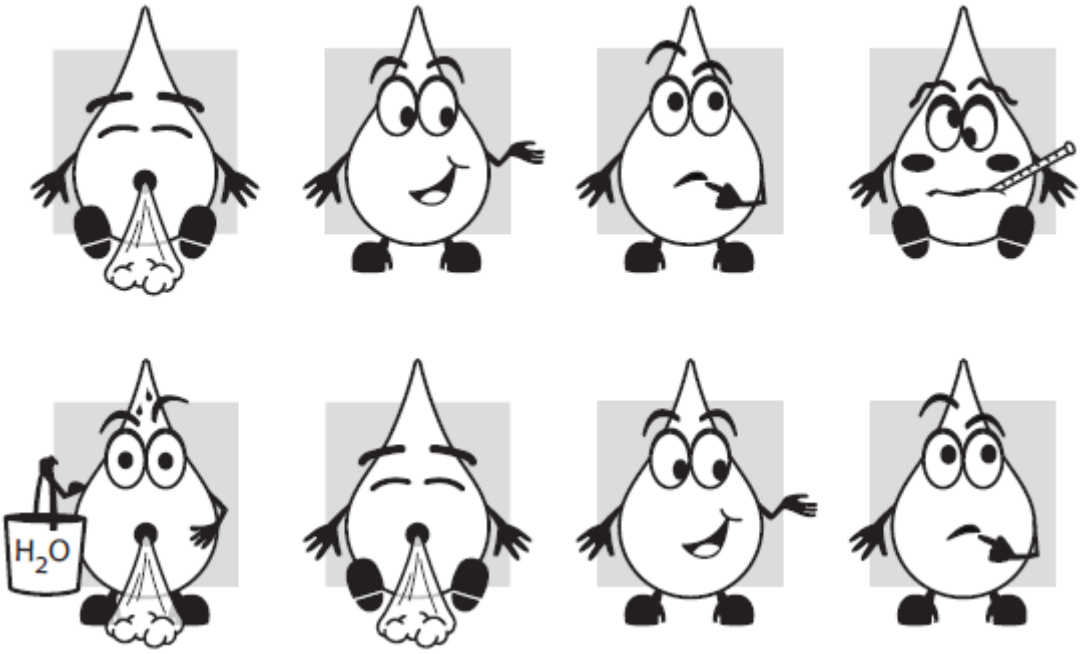
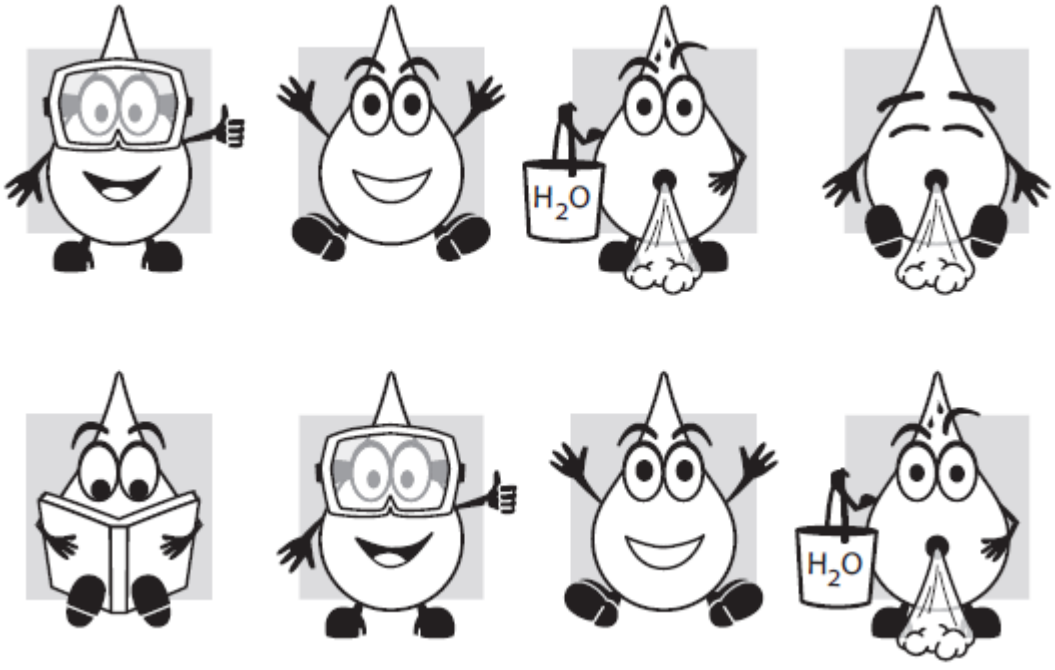


TREAT IT RIGHT



МИНИСТЕРСТВО ОБРАЗОВАНИЯ РЕСПУБЛИКИ БЕЛАРУСЬ

УЧРЕЖДЕНИЕ ОБРАЗОВАНИЯ
<< БРЕСТСКИЙ ГОСУДАРСТВЕННЫЙ ТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ >>

КАФЕДРА ИНОСТРАННЫХ ЯЗЫКОВ ПО ТЕХНИЧЕСКИМ СПЕЦИАЛЬНОСТЯМ

УЧЕБНО-МЕТОДИЧЕСКОЕ ПОСОБИЕ ДЛЯ САМОСТОЯТЕЛЬНОЙ АУДИТОРНОЙ И ВНЕАУДИТОРНОЙ РАБОТЫ ПО ИЗУЧАЮЩЕМУ ЧТЕНИЮ НА АНГЛИЙСКОМ ЯЗЫКЕ

для студентов специальности:
1-70 04 03 – «Водоснабжение, водоотведение и охрана водных ресурсов»

Брест 2014

УДК 802.0 (075)

Учебно-методическое пособие предназначено для студентов специальности «Водоснабжение, водоотведение и охрана водных ресурсов».

Данное учебно-методическое пособие составлено в соответствии с требованиями Программы по иностранным языкам.

Цель пособия - подготовить студентов к чтению и пониманию аутентичной литературы по изучаемой специальности, совершенствовать навыки перевода профессионально-ориентированных текстов, развить коммуникативные способности студентов, расширить их активный и пассивный лексический запас.

Пособие составлено из статей и текстов оригинальной английской и американской технической литературы, содержащих описание технологий и сооружений для очистки природных и сточных вод.

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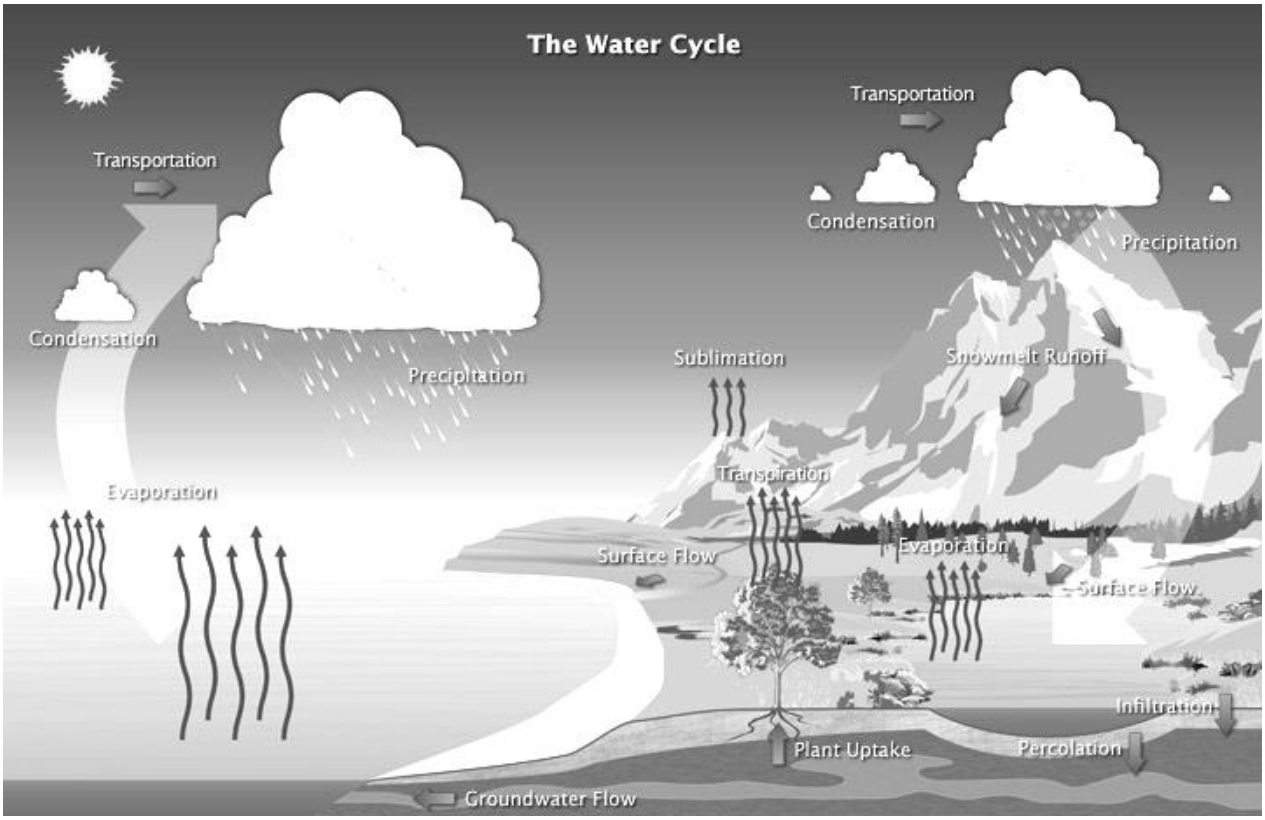
PART 1: EVERY DROP COUNTS - WATER IS A VITAL RESOURCE

Unit 1 THE WATER CYCLE



1. Before reading the text learn the terms used in the text:

water cycle [ˊwɔ:təˌsaɪk(ə)l] – круговорот воды, влагооборот
hydrogen ['haɪdrədʒən] – водород
oxygen ['ɔksɪdʒən] – кислород
gaseous ['gæsɪəs], ['gæʃəs] – газовый; газообразный
liquid ['lɪkwɪd] – жидкость; жидкий, текучий
solid ['sɔlɪd] – твёрдый
to mediate ['mi:dɪeɪt] – быть посредником; служить связующим звеном
to replenish [rɪ'plenɪʃ] – снова наполняться, пополняться
to purify ['pjuərɪfaɪ] – очищать (от чего-л.)
moisture - ['mɔɪstʃə] – влага; влажность
evaporation [ɪˌvæp(ə)'reɪʃ(ə)n] – испарение
vapor/vapour ['veɪpə] – пар , испарения
transpiration [ˌtræn(t)spɪ'reɪʃ(ə)n] – транспирация
sublimation [ˌsʌblɪ'meɪʃ(ə)n] – сублимация, возгонка
account [ə'kaunt] for - объяснять; давать отчет; нести ответственность; отвечать
air current ['kʌr(ə)nt] – воздушный поток, воздушное течение
precipitation [prɪˌsɪpɪ'teɪʃ(ə)n] – выпадение осадков
hail [heɪl] – град
to seep [si:p] – просачиваться; проникать, протекать

to intercept 1. [ˌɪntə'sept] – перехватывать
irrigate ['ɪrɪgeɪt] – орошать
runoff ['rʌnɔf] – (поверхностный) сток
floe [fləu] – плавучая льдина
glacier ['glæsɪə] – ледник

2. Read and translate the text.

THE WATER CYCLE

Water is the basic element of nature. It is a substance composed of the chemical elements hydrogen and oxygen. It exists in gaseous, liquid, and solid states. Water is one of the most plentiful and essential compounds on Earth. It covers 70% of the Earth's surface. It provides life, mediates many vitally important processes, drains harmful substances, and eases out heat. Water needs to be replenished, purified and circulated again and again so that it can perform its functions.

The water, or hydrologic, cycle describes the pilgrimage of water from the Earth's surface to the atmosphere and back again, in some cases to below the surface. This gigantic system, powered by energy from the Sun, is a continuous exchange of moisture between the oceans, the atmosphere, and the land.

The water cycle starts with **evaporation**. It is the process by which water changes from a liquid to a gas or vapor. Studies have revealed that evaporation (from oceans, seas, and other bodies of water) provides nearly 90% of the moisture in our atmosphere. Most of the remaining 10% found in the atmosphere is released by plants through **transpiration**. Plants take in water through their roots, and then release it through small pores on the underside of their leaves. In addition, a very small portion of water vapor enters the atmosphere through **sublimation**, the process by which water changes directly from a solid (ice or snow) to a gas. The gradual shrinking of snow banks in cases when the temperature remains below freezing results from sublimation.

Together, evaporation, transpiration, and sublimation, plus volcanic emissions account for almost all the water vapor in the atmosphere that isn't inserted through human activities. While evaporation from the oceans is the primary vehicle for driving the surface-to-atmosphere portion of the hydrologic cycle, transpiration is also significant. For example, a cornfield 1 acre in size can transpire as much as 4,000 gallons (15140 litres) of water every day.

After the water enters the lower atmosphere, rising air currents carry it upward, often high into the atmosphere, where the air is cooler. In the cool air, water vapor is more likely to condense from a gas to a liquid to form cloud droplets. Cloud droplets can grow and produce **precipitation** (including rain, snow, and hail), which is the primary mechanism for transporting water from the atmosphere back to the Earth's surface.

When precipitation falls over the land surface, it follows various routes in its subsequent paths. Some of it evaporates, returning to the atmosphere; some seeps into the ground as soil moisture or groundwater; and some runs off into rivers and streams. Almost all of the water eventually flows into the oceans or other bodies of water, where the cycle continues. At different stages of the cycle, some of the water is intercepted by humans or other life forms for drinking, washing, irrigating, and a large variety of other uses.

Water continually evaporates, condenses, and precipitates. There are many paths that a water molecule might follow. Water at the bottom of Lake Baikal may eventually rise into the

atmosphere and fall as rain in Massachusetts. Runoff from the Massachusetts rain may drain into the Atlantic Ocean and circulate northeastward toward Iceland, destined to become part of a floe of sea ice, or, after evaporation to the atmosphere and precipitation as snow, part of a glacier.

Water molecules can take an immense variety of routes and branching trails that lead them again and again through the three phases of ice, liquid water, and water vapor. For instance, the water molecules that once fell 100 years ago as rain on your great- grandparents' house might now be falling as snow on your driveway.

3. Match these terms with their definitions:

1. water cycle	a) the process by which water is converted from its liquid form to its vapor form and thus transferred from land and water masses to the atmosphere
2. evaporation	b) the conversion between the solid and the gaseous phases of matter, with no intermediate liquid stage
3. transpiration	c) describes the continuous circulation of the Earth's water in the air, on land, and in the ground
4. sublimation	d) water released from clouds in the form of rain, freezing rain, sleet, snow, or hail
5. precipitation	e) the process by which moisture is carried through plants from roots to small pores on the underside of leaves, where it changes to vapor and is released to the atmosphere

4. Find in the text English equivalents to the following word-combinations.

круговорот воды
вещество, состоящее из химических элементов водорода и кислорода
существовать в газообразной форме
покрывать 70% земной поверхности
обеспечивать жизнь
являться промежуточным звеном в жизненно важных процессах
выполнять функции
непрерывный обмен влаги между океанами, атмосферой и сушей
превращаться из жидкости в пар
поставлять около 90% влаги в атмосферу
выделяться посредством транспирации
деятельность человека
основной механизм для приведения в движение
восходящий воздушный поток
образовывать облачные капельки
образовывать осадки
перемещать влагу из атмосферы обратно на поверхность земли
просачиваться в почву
стекать в реки
постоянно испаряться, конденсироваться и выпадать в виде осадков

5. In each sentence the main verb has been omitted. Fill in the blanks from the words given.

to seep	to exist	to describe	to provide	to account for
to provide	to change	to cover	to release	to condense

1. Water … in gaseous, liquid, and solid states.
2. Water … 70% of the Earth's surface.
3. Water … life.
4. The water cycle … the pilgrimage of water from the Earth's surface to the atmosphere and back again.
5. Evaporation is the process by which water … from a liquid to a gas or vapor.
6. Evaporation … nearly 90% of the moisture in our atmosphere.
7. Water … into the air by plants by a process known as transpiration.
8. Together, evaporation, transpiration, and sublimation, plus volcanic emissions … almost all the water vapor in the atmosphere.
9. In the cool air, water vapor … from a gas to a liquid to form cloud droplets.
10. Precipitation can … into the ground as soil moisture or groundwater.

6. Say whether the following statements are true or false in relation to the information in the text. If you think the statement is false, change it to make it true.

1. Water is a substance composed of the chemical elements hydrogen and oxygen.
2. The hydrologic cycle is a continuous exchange of moisture between the oceans, the atmosphere, and the land.
3. The water cycle starts with precipitation.
4. Water is released into the air by plants by a process known as sublimation.
5. Sublimation is the process by which water changes directly from a solid (ice or snow) to a gas.
6. Evaporation from the Earth's surface is the primary vehicle for driving the surface-to-atmosphere portion of the hydrologic cycle
7. Precipitation is the primary mechanism for transporting water from the atmosphere back to the Earth's surface.
8. Water continually evaporates, condenses, and precipitates.

7. Answer the following questions.

1. What is water?
2. What states of water can you name?
3. Can you enumerate the functions of water?
4. What does the water cycle describe?
5. What is evaporation/transpiration/ sublimation/ precipitation?
6. Why is transpiration also significant alongside with evaporation?
7. What happens to water when it enters the atmosphere?
8. What happens to water when it falls over the land surface in the form of precipitation?
9. Can water molecules take an immense variety of routes that lead them again and again through the three phases of ice, liquid water, and water vapor?

Discuss the statements:

1. Every drop counts - water is vital to people and the environment.
2. We'll never know the value of water till the well is dry.