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| **Date:20.02.2019** | | **Teacher's Name: Uspanova Indira Burkuthanovna**  **School №19** | | | | | |
| **Grade: 8** | | Number of students: | | | Absent: | | |
| **The theme of the lesson:** | | Растворение веществ в воде. Лабораторный опыт № 5 «Изучение растворимости веществ».  Dissolution of substances in water. Laboratory experience № 5 "Studying of solubility of substances”. | | | | | |
| **During the lesson, the goal to achieve.** | | 8.3.4.1 - classify solubility substances in water  8.3.4.2 - to explain a role of solutions in the nature and everyday life | | | | | |
| **Lesson objectives:** | | - to classify substances according to their solubility  - to know a concept of solution  - to explain a role of solutions in the nature and everyday life | | | | | |
| **Assessment** | | - explains a role of solutions in the nature and everyday life;  - compares substances on solubility in water | | | | | |
| **Language objectives:** | | **Functional language**   |  |  | | --- | --- | | Раствор | Solution | | Растворимость | Solubility | | Растворенное вещество | Solute substance | | Растворитель | Solvent | | Растворимое | Soluble | | Растворение | Dissolution | | Малорастворимое вещество | slightly soluble substance | | Нерастворимое вещество | insoluble substance | | Растворимое вещество | soluble substance | | | | | | |
| **Materials** | | Books, presentation, video, Bilimland, Kahhot, poster. | | | | | |
| **Intersubject**  **communications** | | Physics | | | | | |
| Move of the lesson: | | | | | | | |
| Planned stages of the lesson | Planned activities in the classroom | | | | | Resurse: |
| Led -In  3 min | Hello students. Please sit down. I am glad to see you. Before we start I want you to check your homework. Let’s start play a game Kahoot. Take your phone and enter the password of the game.  T: Well done. The first group won. Now, Look at the board, read the words from the picture and translate. How do you think, What is the topic of our lesson? What meaning do these words have? | | | | | https://kahoot.com/ |
| Warm up  3 min    Presentation  7 min  Practice  5 min  Production  10 min  7 min | **T:** Good job.  Today’s lesson is going to focus on “Dissolution of substances in water.” After today’s lesson you will be able to classify solubility substances in water and to explain a role of solutions in the nature and everyday life. We will start with Explanation and we will finish with Activity.  Now, Let’s work with new terminology. Look at the presentation. Read and repeat after me.  **STQ How do you think, do all substances dissolve in the same way?** Given example.  Today we will talk about solutions  Explanation: https://bilimland.kz/en/courses/chemistry-en/inorganic-chemistry/water-and-water-sollutions/lesson/dissolution-solubility-in-water  **T:** Now let’s move on to practical activity. I want you to work in 3 groups and do laboratory experience № 5 "Studying of solubility of substances. Read the instruction of laboratory experiment. Remember the safety rules when heating the test tube. Then write your result on the form (Teacher gives students the envelope with task on it **Attachment 1**).  ***Ss:*** *Students do creative activity.*  **T:** Good job! Now I want you to present your work and make a conclusion for each experiment**.**  **Feedback. Cubism method**  **T:** We're going to play cube now.  **You** throw the cube and find substance in the solubility table (NaCl, Al(OH)3, BaSO4, AgCL, CaSO4)  T. Well done! Next task. You will make a poster the role of solutions in the nature and everyday life. Don't forget to read the descriptors for evaluation groups. (Teacher gives students the envelope with task on it **Attachment 2**)  ***Ss:*** *Students do creative activity.*  **T:** Well done. Good job! Now, I want you to present your posters. The second group evaluate the first group by descriptors  **Feedback. Game «Fly swatter»** Repeat with the whole class.  Игра на 5 минут. Учитель называет термин на русском или английском языке ученики ищут это слово и переводят на три языках.  Now, we well do the test by <https://itest.kz/ru/ent/himia-ru> to prepare for the UNT. | | | | |  |
| Reflection 3 мин. | **Find this sheets**   |  |  |  | | --- | --- | --- | | Name | I can | I can’t | | I can generalize and consolidate knowledge about the dissolution of substances in water |  |  | | I can classify substances according to their solubility |  |  | | I can explain a role of solutions in the nature and everyday life |  |  | | | | | | Presenta-  tion |
| Conclusion (to finish the lesson and set the homework)  2 min | Today you worked well. Now, I’d like to recap. Today we have explored the topic of “Dissolution of substances in water”. The key things to remember are to classify substances according to their solubility and to explain a role of solutions in the nature and everyday life. For the next lesson I want you to read the paragraph 40.  Complete the table:   |  |  |  | | --- | --- | --- | | Solutions | Solvent | Solute substance | | Морская вода |  |  | | Кока- кола |  |  | | Духи |  |  | | Раствор сульфата меди |  |  | | Воздух |  |  | | | | | | Presenta-  tion |
| **Дифференциация.**  **Каким образом вы планируете оказать больше поддержки? Какие задачи вы планируете поставить перед более способными учащимися?** | | | | **Оценивание.**  **Как вы планируете проверить уровень усвоения материала учащимися?** | | **Здоровье и соблюдение техники безопасности** |
| **Дифференциация:** При выполнении задания учащимся раздавать дополнительные инструкции при защите постера на английском языке  **Дифференциация:**  *Учитель может оказать индивидуальную поддержку некоторым учащимся во время вазаимооценивания.* | | | | *Оценивание учителя: формативное в течение всего урока.*  *Взаимооценивание: представление группами своей работы.* | | *Активные виды деятельности.* |
| ***Рефлексия по уроку*** | | | *Используйте данный раздел для размышлений об уроке. Ответьте на самые важные вопросы о Вашем уроке из левой колонки.* | | | | |
|  | | | | |

Attachment 1

**The theme of the lesson: Dissolution of substances in water.**

|  |  |
| --- | --- |
| Раствор | Solution |
| Растворенное вещество | Solute substance |
| Растворитель | Solvent |
| Растворимое вещество | Soluble substance |
| Малорастворимое вещество | Slightly soluble substance |
| Нерастворимое вещество | Insoluble substance |
| Растворимое | Soluble |
| Растворение | Dissolution |
| Растворимость | Solubility |

***Laboratory experience № 5 "Studying of solubility of substances. Group №1 “Water”***

**Purpose:** to study the solubility of various substances in water

Procedure:

1. Take 1 g of each substance (**copper sulfate** CuSO4\*5H2O, **sugar**, **Chalk** CaCO3), and dissolve in 20 ml of water. Prepare 3 different solutions.
2. Observe how much of substance dissolved in water.
3. Divide substance into 3 types: soluble, slightly soluble and insoluble.

|  |  |  |
| --- | --- | --- |
| Soluble | Slightly soluble | Insoluble |
|  |  |  |

Observation & questions:

1. Which substance is very soluble in water?
2. How much of chalk dissolved in water?

**Дескрипторы:**

- определяют, какой из растворов лучше растворим;

- классифицируют вещества согласно их степени растворимости;

- определяют, нерастворимое вещество.

**The theme of the lesson: Dissolution of substances in water.**

|  |  |
| --- | --- |
| Раствор | Solution |
| Растворенное вещество | Solute substance |
| Растворитель | Solvent |
| Растворимое вещество | Soluble substance |
| Малорастворимое вещество | Slightly soluble substance |
| Нерастворимое вещество | Insoluble substance |
| Растворимое | Soluble |
| Растворение | Dissolution |
| Растворимость | Solubility |

***Laboratory experience № 5 "Studying of solubility of substances. Group №2 “Minerals”***

**Purpose:** to study the solubility of various substances in water

1. In two tubes put 1 spoon of sugar.
2. In one test tube, pour a little water and shake well.
3. Another test tube pour a little water and to be heated over the flame of a spirit lamp.
4. Name the processes that have occurred.

Observation & questions:

1. What is solvent?
2. What is a soluble substance?
3. What is a solution?

**Дескрипторы:**

- дает определение растворам;

- определяют растворитель;

- определяют растворимое вещество.

**The theme of the lesson: Dissolution of substances in water.**

|  |  |
| --- | --- |
| Раствор | Solution |
| Растворенное вещество | Solute substance |
| Растворитель | Solvent |
| Растворимое вещество | Soluble substance |
| Малорастворимое вещество | Slightly soluble substance |
| Нерастворимое вещество | Insoluble substance |
| Растворимое | Soluble |
| Растворение | Dissolution |
| Растворимость | Solubility |

***Laboratory experience № 5 "Studying of solubility of substances. Group №3 “AIR”***

**Purpose:** to study the solubility of various substances in water

1. Weigh an empty beaker
2. Pour 20 ml of water
3. Put 1 g of salt in the beaker
4. Stir with a stick
5. Weigh the beaker.

Observation & questions:

1. Has the mass of the solution changed?
2. What is solvent?

**Дескрипторы:**

**-** определяет изменение массы в растворе;

**-** дает определение растворам

Attachment 2

**The role of solutions in nature and everyday life**

**1 group “ Water”**

Прочитайте текст, сделайте постер.

Solutions play important role in nature. Water is a universal solvent on Earth. All world waters on Earth are solvents with some admixtures. All water is solvent: sea, river, lake, ground and drinking water. Air is solution of gases. Most minerals are solid solutions.

**Оцените группу №2 по следующим дескрипторам**

- иметься тема постера

- постер отражает ключевые идеи темы

- учащиеся привели примеры значения растворов в природе и повседневной жизни;

**Роль растворов в природе и повседневной жизни**

**The role of solutions in nature and everyday life**

**2 group “Minerals”**

Прочитайте текст, сделайте постер.

Living organisms have solutions too. For example, plants feed on solutions through roots. Peoples’ organism uses solutions for food digestion. Blood and lymph are solutions that consist of plasma and other elements. Juice, tea, coffee, sauce and soup are solutions.

**Оцените группу №3 по следующим дескрипторам**

- иметься тема постер

- постер отражает ключевые идеи темы

- учащиеся привели примеры значения растворов в природе и повседневной жизни;

**Роль растворов в природе и повседневной жизни**

**The role of solutions in nature and everyday life**

**3 group “AIR”**

Прочитайте текст, сделайте постер.

We use solutions, such as **polish, paints**, more often that clear substances. **Cosmetics, soap, perfume.** Most medicines are solutions, for example **iodine.** We use solutions for building: plaster, concrete.

**Оцените группу №1 по следующим дескрипторам**

- иметься тема постер

- постер отражает ключевые идеи темы

- учащиеся привели примеры значения растворов в природе и повседневной жизни;











