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TEACHING SCENARIO FOR IMPLEMENTATION OF THE INTERDISCIPLINARY PROJECT FOR STUDENTS

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Project name:	Let's save every drop of water!
Related Subjects	geography, nature / biology, mathematics
Key words:	water conditions in nature, water circulation in nature, water energy, water protection, water purification, volume

Activity name:	Water as a natural resource - an introduction
Duration of Activity (min)	10 min
Detailed description of the activity:	
<p>Introduce students to the following goals of this project, to get them interested in the topic and inform them about the importance of the topics they will encounter.</p> <ul style="list-style-type: none"> - water conditions in nature - water circulation in nature - studying water as a natural resource and energy source - water as a source of energy - water protection, purification and recycling <p>Share the introductory chart with the students at the following link: https://view.genial.ly/628f39b056886900181b0893/interactive-content-how-does-water-travel-in-nature</p> <p>The chart contains the most important concepts that students will learn about. Explaining the terms on the chart will help them to deal with the project more successfully during the next activities. Have students study the terms, and then comment on them - clarify if the students are unfamiliar.</p> <p>Finally, ask students to point out which term they find most interesting and what they would like to learn more about.</p>	
Adapted activities for students with disabilities	
Adapted activities for gifted students and those who want to know more	

Activity name:	Water conditions in nature
Duration of Activity (min)	15 min
Detailed description of the activity:	
<p>After the introductory activity, students will start research - the goal is for students to understand the processes of changing the state of water in nature and to be able to explain them.</p> <p>Share your presentation with students at the following link: https://www.flexclip.com/share/137224529a6ddab79245772c90a4b2d9371b66d.html</p>	



The goal is for students to study the state of water and the path of water droplets when changing states (solid, liquid and gaseous) with an interactive presentation. Then divide the students into 3 groups - each group will represent one state of water (solid, liquid and gaseous). Each group, depending on the state of the water they represent, will find questions to be answered in writing at the following link:

<https://app.wizer.me/learn/H953BK>

After students have finished answering the questions, write new key terms on the board.

Adapting activities for students with disabilities

Adapted activities for gifted students and those who want to know more

Activity name:	How does water circulate in nature?
Duration of Activity (min)	10 min
Detailed description of the activity:	
<p>The following activity will help students draw a conclusion - how does water circulate in nature by changing its states?</p> <p>Choose two students who will read aloud the most important information about water circulation in nature. In this way, all students will be introduced to the most important concepts and understand the process of water circulation in nature. If students have any ambiguities, clarify them.</p> <p>Then, instruct students that the next task will work in pairs and that they will find their task at the following link: https://app.wizer.me/learn/RJEPGQ</p> <p>Once students have solved the task correctly, they will get a visual representation of the cycle of water circulation in nature.</p>	
Adapted activities for students with disabilities	
Adapted activities for gifted students and those who want to know more	

Activity name:	Let's repeat what we learned!
Duration of Activity (min)	10 min
Detailed description of the activity:	
<p>Students will repeat the previously learned content with the help of a quiz. The quiz will be solved by each student independently, and share it with the students using the following link:</p> <p>https://quizizz.com/admin/quiz/628f804752500a001fb32e6d</p>	



The quiz will help students consolidate the knowledge acquired during previous activities. On the other hand, the quiz solutions to the teacher will serve as feedback on the knowledge that the students have acquired. You can use the solutions of the quizzes for student assessment or for descriptive evaluation of student work. When you decide on one of the options, share it with the students before they start solving the quiz.

While solving the quiz, help students if they have technical questions about using the quiz tool.

Adapted activities for students with disabilities

Adapted activities for gifted students and those who want to know more

Activity name:	That I am a drop of water...
Duration of Activity (min)	30 min
Detailed description of the activity:	
<p>The goal of this activity is for students to design the path of one drop of water in nature. Instruct students to imagine that they are a drop of water and what their day would look like. In doing so, their task will be to show what that day would look like. Emphasize that a drop of water in nature never rests and that it is necessary to design and display these changes in the state.</p> <p>Students can design their day "that they are a drop of water", and then they should show that day with the help of the tool Genial.ly - https://genial.ly/. Instruct students to create an interactive image or presentation and that all resources are available to them provided by Genial.ly - images, audio , videos, graphics, maps, wallpapers and more. Also, point out to the students that they need to write on the presentation the new concepts they learned during this project. Announce that 2 or 3 students will present their presentations at the end.</p> <p>While students are working on their presentations, help them if they have technical questions about using the Genial.ly tool. Dedicate the last 7 minutes of the activity to presentations.</p> <p>This activity will encourage students' creativity and enable the use of acquired knowledge at a higher level, because students will need to summarize the content learned so far in one creative presentation.</p>	
Adapting activities for students with disabilities	
To help students get started with the activity, point out that they can start their journey in the ocean. Remind students to remember what will happen to them (a drop of water) when the sun begins to warm the ocean.	
Adapted activities for gifted students and those who want to know more	
Invite students to present their presentations.	

Activity name:	Water purification
Duration of Activity (min)	15 min
Detailed description of the activity:	
<p>After the students have done the presentation of their presentations, start the next activity. Point out to the students that they have learned so far that water in nature is constantly circulating in the processes they have been learning about. Then point out that humans can stimulate the circulation of water in another way - by</p>	



purifying. Namely, it is important to announce to the students that a person has the opportunity to influence the reuse of water that he or she has already used once.

Next, project a video presentation using the following link:

<https://www.youtube.com/watch?v=JyzvcrZluf0>

The content of the video presentation shows water use in 4 key sectors and how water is purified in those sectors. These sectors are housing, commercial, industry and agriculture. Along with the video presentation, explain to students the use of water in certain sectors and how it is purified and to what extent.

After that, in order for the students to repeat the information they heard / saw in the video presentation, announce to the students that their next task is to make a mind map. The mind map will be created by each student in the MindMeister tool - <https://www.mindmeister.com/>

<https://mm.tt/map/2304738768?t=O6VnAgwtgi>

The mind map should contain:

- a) the central concept of "water use and purification"
- b) a division into 4 key sectors presented in a video presentation
- c) under each sector, students should write down what they remember from the presentation
- d) students' own thoughts - how they use water, and how they pay attention to the amount of water they consume.

As students create their mind maps, help them if they have technical questions about using the MindMeister tool. If students do not complete mind maps at school, they can continue to make them for homework. Students can send you their smart maps that can be used for some kind of evaluation.

Adapted activities for students with disabilities

Adapted activities for gifted students and those who want to know more

Activity name:	How do I use water?
Duration of Activity (min)	45 min
Detailed description of the activity:	
<p>As an introduction to the activity, discuss with students. Have a discussion about everyday water use, asking students the following questions. Encourage students to express their opinions and give as many students as possible the opportunity to answer certain questions:</p> <ol style="list-style-type: none"> 1. Remember as many everyday situations as possible in which you use water. What did you use water for today? 2. How and for what does your family use water? 3. How and for what is water used in our school? 4. What did you eat for breakfast / lunch today? Let's try to give all the details - how was the water used for growing / producing that food until the meal was prepared? 	



5. Look around the classroom - is water used to produce the things we have in the classroom? Do we use water in the classroom in any other way?
6. What do you do every day to keep track of the amount of water you consume?
7. What else could you do to reduce water consumption?
8. What can factories and buildings do to reduce water consumption and purify water?

Then, announce to the students that there will be an activity in which they will be creative. Each student will work independently in the Adobe Spark tool - <https://express.adobe.com/sp/>. The task for students is to make a digital poster. Instructions for students are as follows:

- the poster should show how the student uses water on a daily basis
- With each use of water, the student should devise a way to make sure that he uses less water in the future or to encourage water purification / reuse - this way students can show with a slogan, message, text, picture, animation
- students can use all the tools and resources available to them in the Adobe Tool Spark
- it is important that the poster is neat, creative in the end and that the messages on the poster are clear.

While students are making their posters, help them if they have technical questions about using Adobe Spark. Use the last 7 minutes for the presentation - have a few students present their posters, with special emphasis on the ways of conserving / purifying the water they have devised.

Click here to see an example:

<https://express.adobe.com/post/7lhgxu9XUFpYc/>

Adapted activities for students with disabilities

Make sure students understand the task and, if necessary, help students use the Adobe Spark tool

Adapted activities for gifted students and those who want to know more

Activity name:	Let's learn to measure and count well to take even better care of the water
Duration of Activity (min)	25 min

Detailed description of the activity:

Start the activity by reminding students of what they have learned before - how water changes its state and circulates in nature, how we use water and how we can protect and purify it. On the posters made by the students, they have also highlighted ways to protect water. The following activity will help students to be even more successful in conserving water with the help of math. Point out to the students that this is necessary - to know how to measure and recalculate well!

Then, share the assignment with the students at the following link, and project the same:

<https://app.wizer.me/learn/OI9D5N>

Students can watch the presentation on their devices as well as your projection. The initial part of the presentation brings content related to measurement methods and volume and volume calculation. Explain the content to the students, and then instruct them to solve the quiz and tasks on their own. Some of the tasks will



be solved by students independently in the presentation, and some will be solved by writing the answers in a notebook.

Spend the last 5 minutes checking the correct answers.

Adapted activities for students with disabilities

Adapted activities for gifted students and those who want to know more

Activity name:	Let's make a rain gauge!
Duration of Activity (min)	20 min
Detailed description of the activity:	
<p>Divide the students into groups so that there are 4 students in each group. Each group should have one plastic water bottle, barbell/rock, scissors, duct tape, glue and felt-tip pen. The task of the students is to make a rain gauge following the instructions in Annex 1.</p> <p>Students should use a felt-tip pen to mark the water level on the rain gauge. Upon completion, all groups will display their work and place their rain gauges in the school yard, at the window, or some other convenient place where rainwater will be collected in rain gauges. Students can continue to monitor the water level in the rain gauge.</p>	
Adapted activities for students with disabilities	
Adapted activities for gifted students and those who want to know more	

Annex 1

Making a rain gauge



There is no better way to learn about time than to observe it and experience it firsthand. Monitor local precipitation with a simple rain gauge made from a transparent plastic bottle. If you carefully calibrate it, you can take fairly accurate readings.



1. Cut the upper part from the transparent bottle as shown. Be sure to ask an adult to help you cut the bottle. Using a ruler, mark the measurement increases starting from about 2" from the bottom. Use millimetres as a source of measurement.



2. Put a few small rocks on the bottom (for weight), then fill the bottle with water up to 0 mark. This will calibrate your gauge.



3. Turn the top of the bottle into a rain gauge to act as a funnel. If you need to make sure that the upper sticks are held, use a tape to fasten the funnel of part of the rain gauge. Place the meter on a flat surface from the outside.



4. Wait for the next rain and observe and record the rainfall. You should leave the rain gauge for either a few days or a whole week and record the amount of total rain collected and how the rain measured the first day and as it added in the second day and so on.

Divide the amount of precipitation over a week and bring your results to class. Be proud of your work! You've learned to measure rainwater!