

Utilizing the Water Around Us

Slide 1, How do we use water?: Today we are going to learn about all the ways that we use water in our everyday lives, and even how we might use water without even knowing it. We are also going to learn about how best we can use this water.

Slide 2, Where does our main source of freshwater come from in The Bahamas?: Let's remind ourselves - where do we get our main source of freshwater in The Bahamas?

Groundwater! That's right. Remember that our groundwater is very scarce and limited, and other processes such as reverse osmosis is very expensive. This makes our freshwater resources very precious.

Slide 3, Freshwater is PRECIOUS: After having learned all about freshwater in The Bahamas, do you think that it is precious? We think it is! Freshwater is a very valuable resource, which means that we should appreciate it and be grateful always for our freshwater. As a reminder, less than 1% of freshwater found on Earth is available to us for use. Most of our water is saltwater found in our oceans. There are ways that we can be sure we utilise the water available to us most efficiently so that we don't waste this precious resource.

Slide 4, Video: Did you realise how little freshwater is found around the whole world? Let's check it out in this video. <https://www.youtube.com/watch?v=4HSFKwho7MQ>

Slide 5, What makes water so useful?: As we can see from that video, freshwater is a very limited resource. The properties of water can tell us a little bit about why water is indeed so useful to us. The main properties are : 1. It is a universal solvent. Water can dissolve the most substances out of any other solvent. This is important for water as a gas, a liquid or a solid.

2. It has a high surface tension. The atoms in water (hydrogen and oxygen) work very well together, which is known as **cohesion**. These forces help water to “resist an external force”. The bonds of the water molecules are very strong at the surface of the water, which creates a barrier between the atmosphere and the water. 3. Water has a high specific heat. This means that it takes more energy - therefore takes longer - to increase the temperature of water compared to other substances. 4. These properties allow water to be observed in all three states in everyday life - solid, liquid and gas. No other substance can be so readily observed in all three states like water can.

Slide 6, What do WE use freshwater for?: Freshwater is used for many things around the globe, but how do we use it personally? There are many tangible ways we can identify for using water. Firstly, it is used in the agricultural world. Here in The Bahamas, our farming industry heavily relies on freshwater to water crops, for their cattle and more. We cannot rely solely on rainfall for these crops as it is so scarce in The Bahamas, but these farmlands need it. Water is also used in production of goods, including electricity, food services, electronics and even clothes! We use water in our daily activities, not just to stay hydrated, but to wash our hands, shower, use the bathroom, water plants, etc.

Slide 7, Direct & indirect water usage: There are two different types of water usage, direct and indirect. What does that mean? Basically, direct water usage is water that we use with our own two hands. Indirect water usage is water that is used without us seeing it, such as in food production, clothing production and industrial products (like electronics or machinery). If you look at this chart, you can see that it takes over 113,000 litres of water to produce ONE hamburger. That’s about 30,000 gallons of water!

Slide 8, Why is water so important to us?: Water supports our ecosystems and our civilizations, like where we live. It also provides sanitation for us as we shower, wash our hands, clean our dishes and

laundry, etc. It helps with generating power in industrial parks, meaning for certain products such as water and power plants, as well as making products such as food, clothing and more. Our bodies are composed mostly of water, and we need it in order for our organs, circulatory and respiratory systems to function properly.

Without water, we have no life! We need it to survive.

Slide 9, “Which is why...”: We need to conserve water! What does conserve mean? Conserve means to protect something in order for us to be able to use it for the future. We must be very careful of how much freshwater we are using. It has such a large role in our lives, and we cannot live without it! So we must be sure that we do our part to conserve it.

Slide 10, so, how can we do that?: At home, we can do our part to conserve water. This means we can practice things like taking shorter showers or turning off the faucet while we’re brushing our teeth. Saving energy (like electricity) also helps with saving water. The less electricity we use, the less demand of water needed for power plants, and the less amount of fossil fuels will be exposed in the atmosphere. This prevents acid rain that can potentially damage groundwater sources. There are many high efficiency appliances in today’s age, including washing machines, fridges, dryers and more. Throughout our day, we can also recycle water! For example, we can use water that we haven’t drank during the day to water plants, or maybe to put in the kettle to boil for the morning. Can you think of any other ways?

Slide 11, so, how can we do that cont’d?: When we’re not home, we can learn to make smart decisions in order to utilize our water. Like eating foods that are in season! When we eat fruits and vegetables that are in season, they require less irrigation (watering) and attention in order to harvest. This saves water on farmlands. Choose fruits that you know are in season, like mangoes in the summertime. Always having a reusable water bottle with you helps with waste! Remember, the less plastic packaging we

use, the less demand on manufacturing plants. Last but not least, the main thing we can do is spread awareness! Tell a friend or family member about what you learned on how to best utilize the water around us. Information becomes even more valuable once it's shared. Who will you tell?!