



## Master Lesson Plan

For

### Every Drop Counts

| Board | Standard | Subject | Chapter           | Language | Reference Link                    | Creation Date |
|-------|----------|---------|-------------------|----------|-----------------------------------|---------------|
| CBSE  | STD V    | EVS     | Every Drop Counts | English  | <a href="#">Every Drop Counts</a> | 2020-07       |

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## Every Drop Counts

### 1. MS\_Objectives\_Every Drop Counts

#### Students will be able to -

- recognise the importance of rain water harvesting
- internalise the feeling of gratitude to Mother Nature
- design posters highlighting various water related aspects
- project the position of various aspects of water through survey
- deduce the reasons for depletion of water sources.
- infer the importance of water to customs in various cultures
- appreciate the selfless work of an Individual
- summarise the importance of water

| Time to teach | Asset Type  | Theme | SubTheme                    |
|---------------|-------------|-------|-----------------------------|
| 5 Minutes     | Main Script | Water | Precious Resource, Precious |

### 2. IQ\_Vanishing Water

Notes to teacher: Please ask the children to find out causes for shortage of water a day before. On the board write conservation, pollution and wastage. Teacher can encourage the children to come out with different answers and then give the answers.



**Q 1. What does the picture show?**

**Suggested answer:** Pollution of water bodies.

**Q 2. Did your grandparents or parents drink bottled water? Why?**

**Suggested answer:** No. They drank water from rivers, lakes and streams as it was clean. People did not throw garbage or chemical waste or plastics into water bodies.

**Q 3. In ancient India even dry areas did not have shortage of water. Give reasons.**

**Suggested answer:** In ancient India people had rain water conservation devices at home or constructed lakes and ponds to catch rain water.

**Q 4. Why do wells and rivers become dry?**

**Suggested answer:** Wells run dry because of huge reduction in ground water levels.

**Q 5 Can you think of different ways to save water?**

**Suggested answer:** Recycling (like leftover water in a bottle can be used to water plants or feed birds), using

simple methods of rain water harvesting. Not throwing garbage in ponds, rivers, etc.

### Q 6. Why is rain water harvesting a better solution than desalination or huge dams?

**Suggested answer:** Rain water harvesting is cheaper and can be done individually or by communities and societies.

Original contribution - Artist Sudeshana Anand email id- sudeshna203@gmail.com

| Time to teach | Asset Type            | Theme | SubTheme                     |
|---------------|-----------------------|-------|------------------------------|
| 10 Minutes    | Inquisitive Questions | Water | Potable water, Potable water |

### 3. DD\_Water Shortage and Solutions

Everywhere around us we see shortage of clean water. Buying bottled water is on the increase. Tankers are common. Every drop we save is precious. Did you know on an average one person wastes around 1000 litres of water every day. Rain water harvesting can save huge amount of water.

Rainwater harvesting is the process of collecting rainwater from surfaces on which rain falls, filtering it and storing it for multiple uses. Rainwater harvesting brings ground water back to normal levels. Usually, the rainwater is collected from roof tops of buildings and then stored in a special tank. Rainwater harvesting systems are designed after assessing site conditions that include rainfall pattern, incident rainfall and their storage characteristics. In some methods earthen banks are built to catch the rainwater allowing it to seep deep down into the earth through natural cracks or fissures on the surface, stored and saved for later use.

The reasons why rainwater harvesting systems is the best solution -

- Rainwater harvesting will improve water supply, food production and ultimately food security.
- Houses or places that have water shortage in summer as well as individuals in rural areas will benefit from rainwater harvesting systems.

#### The collection of rainwater and harvesting it for everyday use has plenty of benefits:

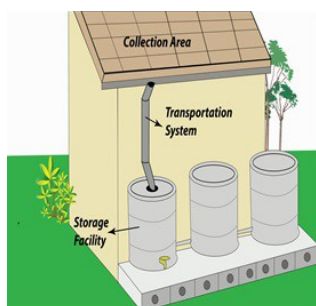
- The biggest benefit is self-sufficiency for your water needs, since we have such a limited supply of fresh water available.
- It is very costly and takes a lot of time to produce water through dams, rain water harvesting is cheaper and can be done on a small scale in every village or city.
- Using rainwater for house hold work will reduce the water bill.
- The collected rainwater can be used for many different purposes around the home. This includes laundry, washing dishes and more. This would prevent groundwater reduction and recharge ground water table.
- Rainwater harvesting systems are cost effective, provide high quality water, reduce dependence on wells. The surplus rainwater can also be used to recharge ground water

#### METHODS OF RAIN WATER HARVESTING:

##### \*ROOFTOP RAIN WATER HARVESTING:

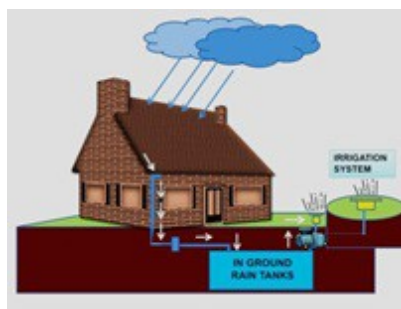
- In this method rainwater is collected from the rooftop to a storage tank through pipes. One method of rainwater harvesting is rooftop harvesting. With rooftop harvesting, most of the surfaces — tiles, metal

sheets, plastics, but not grass or palm leaf — can be used to intercept the flow of rainwater and provide a household with high- quality drinking water and year-round storage. Other uses include water for gardens, domestic animals, irrigation, etc.



#### GROUNDWATER RAIN WATER HARVESTING:

- Another method is to allow the rainwater to go into the ground directly. The rain water collected can be used with the help of bore well.



Rain water harvesting can save huge amounts of water.

#### Image Source:

Roof top Rain Harvesting: SSSVV Gallery (Keyword: Rain)

Ground water Rain Harvesting: SSSVV Gallery (Keyword: Rain)

| Time to teach | Asset Type           | Theme | SubTheme |
|---------------|----------------------|-------|----------|
| 5 Minutes     | Day-to-day Relevance | Water |          |

#### 4. VC\_Thanks Giving

Water is one of the most common and useful substances around us. All the living things like human beings, animals and all types of plants need water to live. Abundance is a fundamental law of nature. Nature provides this water in abundance.

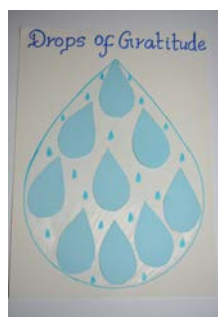
But now, pure water is slowly becoming a rarity. It is said- If you don't start appreciating what is in front of you, you might lose it. We should express gratitude to nature for providing so much water for our sustenance. The best way to express our gratitude to nature is to respect her and use her in the right manner and also use her only according to our need.

Instead of using excess water just because it is available, we should save it for our future generations and let them also enjoy the abundance of water.

## ACTIVITY – DROPS OF GRATITUDE



The teacher can take light blue coloured paper and cut it in the form of drops. Each student can be given a drop and they can be asked to write why they want to thank Mother Nature or they can write how they can show gratitude to nature for providing water. Later the teacher can assemble all these drops in a big chart in the form of a water droplet as shown in the picture below.



The following video can be shown to the children

<https://www.youtube.com/watch?v=6gSkYDYEWUg>

Let us close our eyes and concentrate on our breathing. Let us relax back in the chairs. Feel happy for all the privilege that God has given us. Let us thank Mother Earth for providing us water – the elixir of life. Let us use it judiciously without wasting.

**Image Source:**

<https://pixabay.com/en/raindrops-funny-characters-cartoon-40997/> Original contribution -

Mrs.Nalini Prabha Swain

| Time to teach | Value Type   | Value Sub Type | Value Attribute  |
|---------------|--------------|----------------|------------------|
| 10 Minutes    | Right Action |                | Group Activities |

## 5. SA\_Water Wisdom

**Aim:** To create an awareness among children on issues related to water consumption and conservation.

**Resources Required:** The students should have the following things for the survey:

1. A printed copy of the survey questionnaire.
2. Two pens (blue or black).

3. An examination pad (support for writing).
4. A bag to carry all these things for the survey.

**Setting for the Activity:** Outdoor.

**The survey has to be done in each child's home.**

**Type of Activity:** - Students have to do a survey on water consumption and conservation in their own house.

**Procedure:** The following procedure has to be followed:

1. The teacher gives each child a questionnaire and tells them to find out the answers by asking their parents a home.
2. The teacher has to explain the purpose of this survey to the class and also explain the meaning of each and every question beforehand itself.
3. The students can use the following script and note down the answers one by one.
4. Many of the questions are option based and the students just have to tick or select the required option.
5. After the student has finished the survey they can thank the family members for their time and effort.
6. The students have to submit the filled in survey forms to the teacher when they come back to school the day after the survey.

**The Survey Questionnaire is given on the next page:**

### **Survey on Water consumption and conservation**

#### **A) Shortage of Water**

- 1) In which month do you have the maximum water shortage? (Name of the month/months should be mentioned)
- 2) What do you think is the cause of the water crisis?
- 3) In case of water shortage, what do you generally do? (Tick the appropriate answer/answers)
  - a) Call a tanker
  - b) Go to a nearby well
  - c) Collect rain water
  - d) Others (Please mention)
- 4) What steps has the state government taken to solve this problem?

#### **B.) Conservation of Water.**

- 1) **Where does the water used by your family go in the following cases:**

- a) While Washing vegetables   b) Washing utensils   c)   Washing clothes

- 2) **Name any two places outside your home where water is wasted?**

### 3) Do you collect rain-water for later use?

Yes or No. If yes, how do you collect & store? If no, then why?

YES/NO HOW/Why

### 4) Do you have an overhead tank in your home?

Yes /No. If yes, then do you have overflow protection for this?

YES/NO

OVERHEAD PROTECTION

### Observation:

The students will learn and observe many things during the survey but the main discussion will happen in the classroom where the teacher will discuss the survey results.

### Conclusion:

The teacher has to collect all the filled survey forms and tabulate the results together for every question. Then the teacher can discuss the findings in the class with the students. She can ask questions like-

#### Q1. How many houses have overflow protection from storage tanks?

**Answer-** There are only 5 houses out of 30 houses that do not have this device. They could install it.

#### Q2. How many houses have rain water harvesting system?

**Answer-** Ten houses do not have this system.

#### Q3. How many houses recycle water?

**Answer -** None.

The teacher might need around 2 to 3 days for analysis. Depending on the results, the teacher can discuss and make the children aware of the increasing scarcity of fresh water, and ways and means to save and consume less water.

### The teacher can suggest this -

Can we arrange a talk by a Water Conservationist on this topic in school? It will benefit everyone.

### Instructions to Teacher: (If any – Optional)

The questions have to be explained very clearly to the class and possible answers can also be discussed so that the children have no doubts.

After collection of survey teacher has to study the results and summarise the facts to be presented in points.

| Time to teach | Asset Type         | Theme | SubTheme                   |
|---------------|--------------------|-------|----------------------------|
| 15 Minutes    | Suggested Activity | Water | Precious Resource, Preciou |

## 6. MS\_Water -The Elixir Of Life



Every culture believes that water is the source of life and that life began in water. Water has always been held in reverence and treated with respect. Civilisations flourished near water bodies, be it lakes, rivers or wells.

The aborigines of Australia believed that the Rain Spirit was the bringer of rain and the water of life. In India it is believed life started in water. Rivers were worshipped, hot springs all over the world especially in Europe and England are held sacred because of their healing properties. Water is vital for human existence. Water has always been a symbol of abundance, fertility and life.

In Indian culture there is a custom of keeping water in a pot (mud, copper, brass, silver or gold) over which a coconut is placed, which is surrounded by fresh mango leaves. This is called a Poorna Kalash. It is necessary for all important functions like house warming, marriages, pujas and when a great personage is welcomed.



From ancient times water was stored in mud pots that kept it cool. The porous nature of clay allowed water to evaporate causing the cool effect, it also has been discovered to have many health benefits. Similarly, in ancient times drinking water was kept in copper vessels. It has been scientifically proved that copper has the ability to kill microorganisms and destroy algae making the water healthy to drink.



This concept of cooling due to evaporation was used and step wells or open tanks were built to cool down surrounding areas especially in palaces.

In some customs, giving water to someone is considered the best form of charity. Guests are always welcome with a glass of refreshing cool water. In most cultures water is considered as the symbol of purity. It is sprinkle on a person during, or poured over the head for purification.

Water is a necessity for all living beings but soon we will be facing a crisis of acute shortage of fresh clean water. Using our ancient wisdom, we must begin to conserve, clean and prevent pollution of water and stop wastage of water.

#### Image Source:

<https://pixabay.com/ro/photos/pic%C4%83tur%C4%83-de-ap%C4%83-de-ap%C4%83-valuri-578897/>

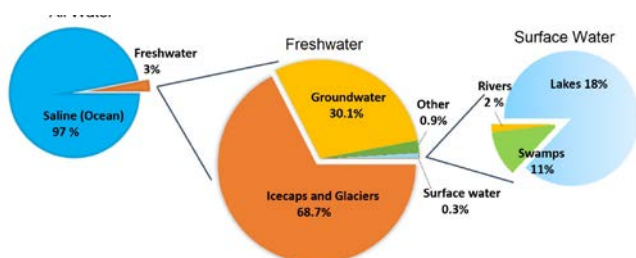
Drawing -Sudeshana Anand email id. sudeshna203@gmail.com

<https://pixabay.com/ro/photos/cazan-de-ap%C4%83-ceai-ceainice-cazan-2545139/>

<https://pixabay.com/ro/illustrations/oal%C4%83-de-ap%C4%83-turnare-metal-foaie-761018/>

| Time to teach | Asset Type  | Theme | SubTheme                   |
|---------------|-------------|-------|----------------------------|
| 10 Minutes    | Main Script | Water | Precious Resource, Preciou |

## 7. SA\_Water Stories



**Aim** - Students will be able to collaborate on the value of water.

**Note to the teacher** - Children are told to make posters related to water.

#### Materials required-

1. A-3. Size paper Number 4
2. Pencils and erasers.
3. Colours, ( pencils, sketch pens and water colours)
4. A drawing pad
5. Marker pens.

**Procedure** - The teacher divides the class into 4 teams and allots each team a topic related to water. She can give each team the name of rivers or A,B,C,D.The four topics to be given are:-

1. Conservation of water. Sketches or pictures can be drawn showing rainwater harvesting, huge dams, rooftop harvesting, lakes and wells with little description.
2. Conservation of water in ancient times. Drawing of johads, step wells, tanks and ponds.
3. Prevention of pollution of existing water bodies, revival of dead rivers, with little text in boxes.
4. Common ways of saving water.

The teacher can assign drawing and sketching to children who are good at it, writing and pasting to others, some for collecting information so that every member of the team is involved. They could collect pictures from old papers and magazines also.

**Conclusion-** Children will be able to realise the importance of conserving, cleansing and proper usage of water. They will learn to work in unity while preparing the posters and also become aware of the value of water.

### Discussion Questions:

Q 1. Why is the ancient wisdom of conserving water more suitable?

Answer - Desalination and huge dams cost lots of money and time wherein local lakes and wells cost less and also give a feeling of belonging and can be maintained by the community itself.

Q 2. How can we, as individuals, save water?

Answer- We can make people more aware about the mindless waste of water by cutting down on usage of showers to bathe, immediate repairing of leaking sources, having tank over flow protection and recycling water.

### Instructions to teacher:

Teacher should inform the students at least two days before to get the materials.

She can form the team a week before so that they can work on it, assigning appropriate tasks to different members of the team. She can also ask them whether they know any new ways of saving water.

Image source - Original Creations

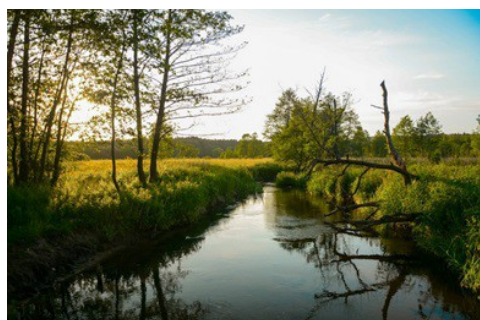
| Time to teach | Asset Type         | Theme | SubTheme                   |
|---------------|--------------------|-------|----------------------------|
| 20 Minutes    | Suggested Activity | Water | Precious Resource, Preciou |

## 8. IA\_The Water Man Of India

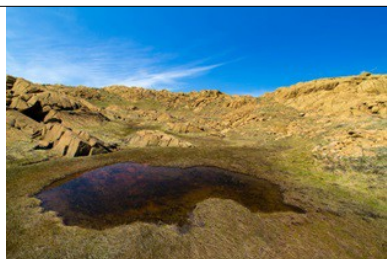
Rajinder Singh is well known as the water man of India. He has won the Noble prize called the Stockholm Water Prize. He is a water conservationist par excellence. He has converted arid lands into fertile areas, especially in Rajasthan.

This knowledge was taught to him by an old villager. His method involves constructing low level banks of earth to hold back water in the rainy season and let it seep deep into the ground to be available for later use. It has increased ground water level and revived many rivers and lakes. All the work has been done unitedly by the villagers with minimum costs.

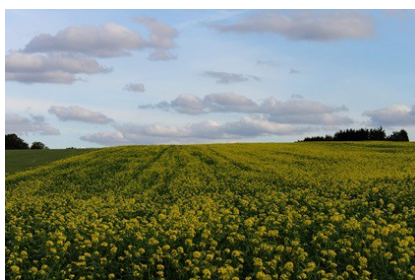
He has revived twelve dead rivers by his method of harvesting rain water. To name a few, River Arvari, Ruparel, Sarsa, etc. that had been dead for many years.



## Johads



He runs an NGO called Tarun Bharat Sangh. They have built 8600 earthen check dams called Johads to hold rain water in over thousand villages. He gives the credit of all his achievements to the villagers who came together and worked to transform their dry lands into rich green territories.



### Image Source:

<https://pixabay.com/photos/river-sky-clouds-landscape-water-1633776/>

<https://www.goodfreephotos.com/other-landscapes/pool-of-water-rocky-surroundings.jpg.php>

<https://pixabay.com/photos/green-manure-yellow-mustard-4536871/>

| Time to teach | Asset Type         | Theme | SubTheme                   |
|---------------|--------------------|-------|----------------------------|
| 5 Minutes     | Interesting Asides | Water | Conservation of water, Con |

## 9. DD\_Water Shortage and Solutions

Every drop of water is precious. Without water the world would come to a standstill.

Water is used for drinking, cleaning, washing cooking and growing plants for generating power and in industries. Water is a renewable natural resource. We know that 70% of the earth is covered with water, but only 3% of it is fresh water.

The human body needs at least 2 litres of water daily. If we do not drink enough water, we get dehydrated.

Most of our water bodies like lakes, ponds, rivers are polluted. Water gets polluted by human waste, throwing of plastic bags, industrial and chemical waste. Water pollution leads to lot of water borne diseases. Clean water is becoming scarce.



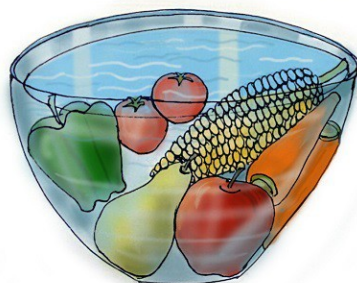
India has lost 72% of its ground water resources.

Conservation of water is a major challenge. Here are three levels at which we can solve this problem- individual level, community level and global level.

On an average a person wastes 1000 litres of water every day. Keeping the tap open while brushing, or washing, wastes lots of water. So does a leaky or improperly closed tap. Shower too uses up lots of water. Washing fruits and vegetables in bowls instead of running water saves water.



**Waste of water**

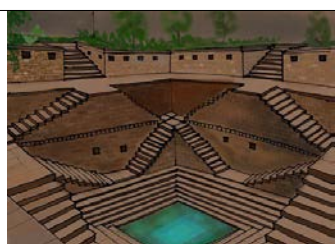


**Washing in a bowl.**



**Saving Water**

In ancient times lakes and ponds were constructed and maintained by the community. So even when rainfall was less, people stored water in small lakes and wells. Now rain water harvesting can be the solution. In Rajasthan, communities have come together and revived dead lakes and rivers, by harnessing rain water, allowing the rain water to seep deep down into the earth, constructing pits where the ground is cracked and have thus transformed desert lands into fertile lands.



Rain water can also be collected from roof tops and stored in tanks. Huge dams and desalination of ocean water cost lots of money and time. It is better to resort to traditional methods of harvesting rain water in lakes, ponds and small storage tanks. To treat the water carrying industrial waste and chemical waste, before they enter water bodies, is one way to prevent pollution. To maintain cleanliness around rivers, lakes and wells is very important. Sewage water can be treated and used for irrigation and livestock. Water is brought to our homes by different means. Some get through taps some through hand pumps, some from wells and some through tankers. Proper use of water, conservation, cleaning and saving will lead to self-sufficiency in water.

#### Image source:

Artist- Sudeshana Anand. email id- sudeshna203@gmail.com  
 Drawings Sudeshana Anand email id- sudeshna203@gmail.com saving water From gallery

Step well -drawing Sudeshana Anand email id- sudeshna203@gmail.com

| Time to teach | Asset Type           | Theme | SubTheme                 |
|---------------|----------------------|-------|--------------------------|
| 5 Minutes     | Day to Day Relavance | Water | Importance of water, Con |

## 10. QA\_Importance of water

### Questions-

1. Is water a renewable/ or non-renewable natural source?
2. How can we increase fresh water availability?
3. How can we save water at home?
4. How can we prevent pollution of water bodies like rivers, lakes and ponds?
5. What were the ancient means of conservation?
6. What are the different means by which water reaches our homes?

### 7.Unscramble the words to find the answer:

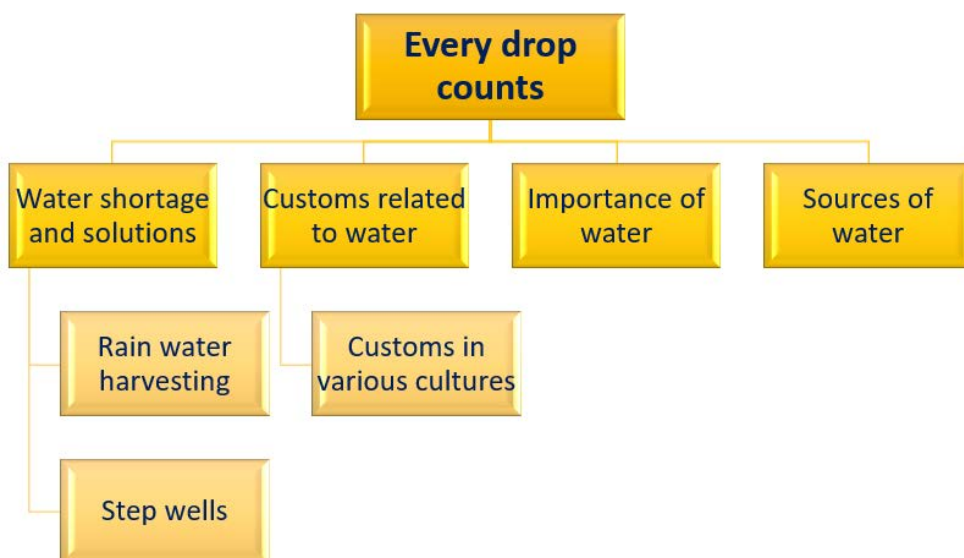
- a. Most of the water in the world is **EASWT ETRAW**
- b. Water resources are strained due to increase in **OPUPLIOTAN**
- c. Water is a precious resource that needs to be **CNORESDEV**
- d. Urban India's water needs are met by **GOUDNR WTERA**
- e. Loss of water supplied through pipelines is mainly due to **LKEAGEA**

### Answers.

1. It is a renewable natural resource.
2. We can increase fresh water availability by using different methods of conservation, prevention of pollution of existing water bodies and stopping wastage of water.
3. While brushing or washing, if we keep the tap closed, we save lots of water. If we close taps properly and repair leakages immediately, wash vegetables and fruits in bowls instead of running water. Using a bucket full of water for bath is better than a shower. All these simple steps save water.
4. We must not let industrial waste to enter water bodies before treating them. We must not throw garbage or plastic into them. We must together maintain cleanliness around our wells and ponds.
5. Construction of lakes and ponds and tanks were ancient means of conserving rain water. They were maintained by the community.
6. Some homes get water throughout the day through taps, some get it through water tankers, some from storage tanks, some from bore wells and step wells
7. a. Waste Water  
b. Population  
c. conserved

**d. Ground water****e. Leakage**

| Time to teach | Asset Type  | Theme | SubTheme                    |
|---------------|-------------|-------|-----------------------------|
| 15 Minutes    | Assessments | Water | Importance of Water, Import |

**10. MS\_Summary\_Every drop counts**

| Time to teach | Asset Type  | Theme | SubTheme                   |
|---------------|-------------|-------|----------------------------|
| 2 Minutes     | Main Script | Water | Precious Resource, Preciou |