

The Water Cycle



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Evaporation



Precipitation



Condensation



Sublimation



Transpiration



Infiltration

Surface Runoff

True

False

True

False

Water Cycle Idol

Today on Water Cycle Idol we will be treated to 5 different competitors who are all vying for the coveted title of Best Water Cycle Video.

We will be judging our competitors according to these criteria:

- Catchiest tune - easy to remember
- Best description of the water cycle – describes the water cycle most accurately and covers the important parts of the cycle most fully
- Most informative – breaks down the water cycle in the easiest to understand way

Each of you will be given a ballot and after hearing the four competitors you will cast your vote and we will see who will be the next Water Cycle Idol!!

Competitor 1: Mr. Davies Water Cycle Song.

https://www.youtube.com/watch?v=okZBiy_IdBA

Competitor 2: Infernite Raps Water Cycle Rap

<https://www.youtube.com/watch?v=i3NeMVbcXXU>

Competitor 3: Mr. Parr and Hydrological Cycle

https://www.youtube.com/watch?v=o3BVa7PH_JE

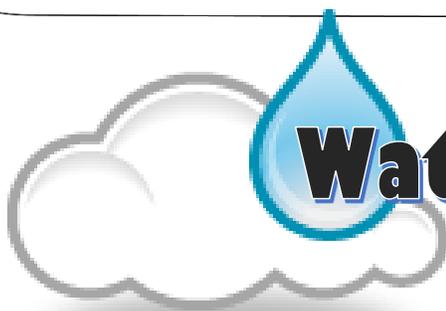
Competitor 4: Miss Selle and Red Cup Water Cycle

<https://www.youtube.com/watch?v=4GcJeScKwrg>

Competitor 5: John Fender Water Cycle Boogie

<https://www.youtube.com/watch?v=3sMvas7zXno>

Now...we vote!



Water Cycle Idol

Competitors:

Davies Water Cycle Song.

Infernite Raps Water Cycle Rap

Mr. Parr and Hydrological Cycle

Miss Selle and Red Cup Water Cycle

John Fender Water Cycle Boogie

Catchiest Tune: _____

Best Description: _____

Most Informative: _____

Exit Slip

Summarize the water cycle in several sentences.

Teaching Suggestions

I like to start this class by having a cup $\frac{3}{4}$ full of water. If you imagine the cup is the Earth's surface the water inside represents how much of the Earth's surface is covered by water.

I take an eye dropper and fill it up. I drop this water into another cup and relate that this is how much of that water is fresh water – lakes, streams, rivers etc.

Take one drop of that water and explain that this is the amount of water that is available to us for us to use. (Explains the importance of sustainability!!)

At this time I like to have already built a terrarium in a jar. Here is how I built mine:

1. You need to clean and dry a **large glass jar**. Mason jars will work great, so will those clip top Jars you can grab at the dollar store, even an old pickle jar that you have cleaned and aired out.
2. In the jar place about an inch of pebbles at the bottom. I use **river rocks** from the dollar store. Top that off with about half an inch of **charcoal**. This helps filter the water.
3. Add several inches of **potting soil**. How much will depend on the size of your jar.
4. Add a layer of **moss** to your jar. Press it down with a stick to make sure it's pressed into the dirt. Also add a **few small plants** from around the yard – chamomile, ferns, and grasses work well.
5. You can also add **living creatures** like ants, snails, slugs etc. if you like.
6. Add **some water** to your jar – just enough that you can see a little bit of water in the rock section of the jar. You will need to re-water it every 7 to 10 days or so. I had one that only needed to be watered every two weeks.
7. Put the lid on the jar. Now you have a self-sustaining example of the water cycle.

If you prepare it a week or so before you start this unit it will already be cycling. If you want to discuss each element role in the cycle build it together. I have done both successfully.

After the reading and highlighting of the following handout I follow up the end of the class by asking a series of True/False questions and have them vote by holding up white boards or by using the supplied True or False cards after they have been laminated and glued to large Popsicle sticks. I like to reuse these often. It is a great quick review to assess understanding before moving on or beginning of the class as a review of previous learning.

The Water Cycle

Water is essential to all life on Earth. In fact water covers over 70% of the Earth's surface; it is held up in places like lakes, rivers, oceans, glaciers, and groundwater. When it rains and a puddle forms outside your window that water appears to be only a few moments old. In reality, that water may have fallen from the sky last week, been part of a river before that, and a glacier the year before that. The Earth has a specific amount of water on it and that amount never changes. This water will be used, replenished, and filtered through a sequence called the hydrological cycle.

There are 7 parts of the water cycle; evaporation, sublimation, transpiration, condensation, precipitation, infiltration, and surface runoff. It is important to remember that during this cycle water can exist in solid, liquid and gaseous form.

Evaporation: water at the surface is turned into water vapor.

Sublimation: Ice converts directly into water vapor without ever being converted into liquid form.

Transpiration: Liquid water is turned into water vapor by plants.

Condensation: Water vapor in the air gets cooled and is turned back into a liquid. It forms clouds.

Precipitation: water is condensed and the air cannot hold any more moisture. This excess water falls back to earth as rain, sleet, snow etc.

Infiltration: Water that is precipitated to Earth that does not runoff into the rivers is absorbed by plants and moves deep into the soil.

Surface Run Off: Water that runs over the surface of earth.

Then the cycle begins again!

True and False Questions (and answers). Have a student correct the answer before moving on.

The amount of water on Earth changes often (f – it doesn't change)

Sublimation is similar to surface run off (f – similar to transpiration and evaporation is theory)

When water evaporated it goes from liquid to gas (t)

Transpiration is evaporation from plants (t)

All of the water in the water cycle is stored above ground (f – it is also stored as ground water)

75% of the water on the Earth's surface is available for us to use (f – it is much less than this – 75% of the Earth's surface)

There is more freshwater on the Earth's surface than salt water (f – there is a 40 to 1 ratio of salt to fresh water)

Infiltration takes place in plants. (f – It is when water seeps deep into the ground)

Condensation takes place after water evaporates, rises up until it cools, and forms clouds (t)

I watch Wet All Over – The Magic School Bus (<https://www.youtube.com/watch?v=ZIGYcGChXN0>)

Next:

Using a giant poster paper draw the jar you decided to use and all of the contents as you had put them in. Using post its or the vocabulary cards label each part of the water cycle as it takes place in your jar. This is a segway into the assessment piece to make sure they can apply what they know to their knowledge of ecosystems.

I have done both a 3D poster and a drawn poster. If you use poster boards the students can use twigs, leaves, cotton balls, Styrofoam balls, beads, sand etc. to make a 3D Ecosystem. They could do a forest, the desert, an island, the jungle, the playground etc. Pairs work best in my experience – three or more tends to mean too many hands for one project.

Drawing a poster takes must less time and supplies. It is always a good option. Getting them to choose an ecosystem stops the students from making all of the posters identical.

Rubrics for both projects follow.

3D Water Cycle Diagram Rubric

Choose an ecosystem and create a diagram that illustrates the 7 stages of the water cycle.

Title _____/2

7 Processes (illustrated, labelled, arrows to show direction of water flow) _____ /21

Neat, Planned, Effort is shown _____ /2

Ecosystem choice is clear _____/5

Final Mark _____ /30

Water Cycle Diagram Rubric

Choose an ecosystem and create a diagram that illustrates the 7 stages of the water cycle.

Title _____/2

7 Processes (illustrated, labelled, arrows to show direction of water flow) _____ /21

Neat, Planned, Effort is shown, Full Color _____ /2

Ecosystem choice is clear _____/5

Final Mark _____ /30

Graphics: HollisHemmings Frames
The Clipart Factory Borders
Creative Clips by Krista Wallden at
<http://www.teacherspayteachers.com/Store/Krista-Wallden>

This FREEBIE is part of my Interactions in Ecosystems Unit. Check it out at my TPT store <http://www.teacherspayteachers.com/Store/Mrshildebrand> .

You may also be interested in:

Photosynthesis is Fun:
<http://www.teacherspayteachers.com/Product/Photosynthesis-is-Fun-Lessons-Labs-and-more-1331131>

The Dynamic Earth <http://www.teacherspayteachers.com/Product/The-Dynamic-Earth-Unit-1132636>

The Earth's Crust <http://www.teacherspayteachers.com/Product/The-Earths-Crust-1044444>

As always, feedback is not only welcome but appreciated.