

## TORAH TREK READY-MADE LESSON

### **MAYIM HAYIM: LIVING THE WATER CYCLE**

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**AGE:** Most appropriate for middle-schoolers, this lesson plan can be adapted for younger or older students.

**GOALS:** To introduce the concept of the water cycle and watersheds, and encourage participants to think about water as a life force within the world. Participants will learn core texts about water and understand the role of water in ancient and modern Israel, and learn Jewish values related to the water cycle.

**HAVAYOT-ACTIVITIES:** Mapping a watershed and creating a water cycle narrative

**LIMMUD/LEARNING AND DISCUSSION:** The role of rain in ancient Judaism. Jewish values: praying within the natural cycles of the earth; one God and the unity of creation

**SUPPLIES:** open space, dirt, sticks, branches, water, maps with watersheds and streams visible, paper, pencils

#### ***Petihah/Introduction***

Name something that every human being cannot live without? There are many answers to this question. When the students mention water, explain that this will be our subject today.

Participants start by learning the chorus to the water cycle boogie:

Evaporation, Condensation, Precipitation  
The water cycle boogie goes round and round  
The water cycle boogie goes up and down

Learn the song on YouTube: <https://www.youtube.com/watch?v=-CoeJnjZtXg>

## Part One: The Vital Role of Water and Rain in Ancient Israel

Limmud/learning and discussion:

*Present the following material in the way you feel best suits your students, appropriate to their background. This will be significantly different for JCC summer campers or Schechter day school students.*

### **Bereshit (Genesis) Rabbah 13:3**

Three things are of equal importance: earth, humans, and rain...each word [in Hebrew] has three letters to teach us that without earth, there is no rain, and without rain, the earth cannot endure, and without either, humanity cannot exist.

This text mentions the obvious truth that we all know, all life depends on water, and it alludes to the interconnectivity of life (which we will discuss at the conclusion of this lesson). This was particularly true for ancient (and modern) Israel, where water in the form of rain was critical. The great civilizations on either side owed their wealth to a consistent source of water for irrigation farming: Egypt and the Nile river; Mesopotamia and the Tigris and Euphrates. But farming in the Land of Israel depended on the unreliable rain.

The Eskimos have such detailed knowledge of snow, they have many words for it: hard snow, wet snow, soft snow, spring snow, etc. In English, we also have many words for snow besides snow: slush, hail, powder. We have one basic word for rain in English (but lots of expressions: it's raining cats and dogs, etc.) How many words for rain do we have in biblical Hebrew? The Torah has four! What does that tell us? Rain must have been very, very important.

The biggest problem facing the first Jews, the ancient Israelites who lived in Torah times, was not political or military, but agricultural. When the rain didn't fall, starvation followed. Food could not be transported to starving people. A donkey eats what it can carry in ten days. That's why Abraham and Sarah and Jacob's sons go to Egypt for food when famine strikes the Land of Israel. They couldn't order water the way we order pizza; they were no water delivery boys or girls!

So the Israelites were very attuned to the cycles of rain in their part of the world, in Israel. *Matar*, and sometimes *geshem*, were the overall words for rain. Just like today, most rain in Israel falls in December, January and February. But there is also the word *yoreh*, for the early season rain. *Yoreh* was the light rain that fell in October and November, and softened the soil. Together with plowing, the *yoreh* made it ready for planting after the soil had been baked during the long, dry Israeli summer. *Malkosh* refers to the late rains in April that keep the crops from withering and bring them to successful fruition.

Rain was crucial for the welfare of the Israelites. But who controls the rain? Unlike the Egyptians or Mesopotamians, the Israelites had no control over the water they depended on. In the Torah, God causes rain to fall. It is seen as a blessing, a gift from God, as expressed in Deuteronomy.

### **Deuteronomy 11:12-14**

It is a land which the LORD your God looks after, on which the LORD your God always keeps His eye, from year's beginning to year's end. If, then, you obey the commandments that I enjoin upon you this day, loving the LORD your God and serving Him with all your heart and soul, I will grant the rain (*matar*) for your land in season, the early rain (*yoreh*) and the late (*malkosh*).

(In Judaism today, many maintain the traditional understanding of God in the Bible and active divine decision-making regarding the timing of rainfall, while others see divinity expressed solely through the natural cycles of the earth that bring rain.)

So ancient Israelite religion, which consisted largely of sacrifices brought to the Temple in Jerusalem, and later Judaism, with centered on prayer, was greatly concerned about rain. Note the use of three different words for rain, as each was critical to the harvest. Timely rain was considered the greatest blessing, and as this passage shows, became a major factor in the relationship between God and Israel. So much so that the rabbis turned the passage above into a central blessing in the Siddur: the second blessing after the Shema. If appropriate, show your students these words in the second blessing of the Shema.

Let's learn, now, about the water cycle that was so important to our People in Israel.

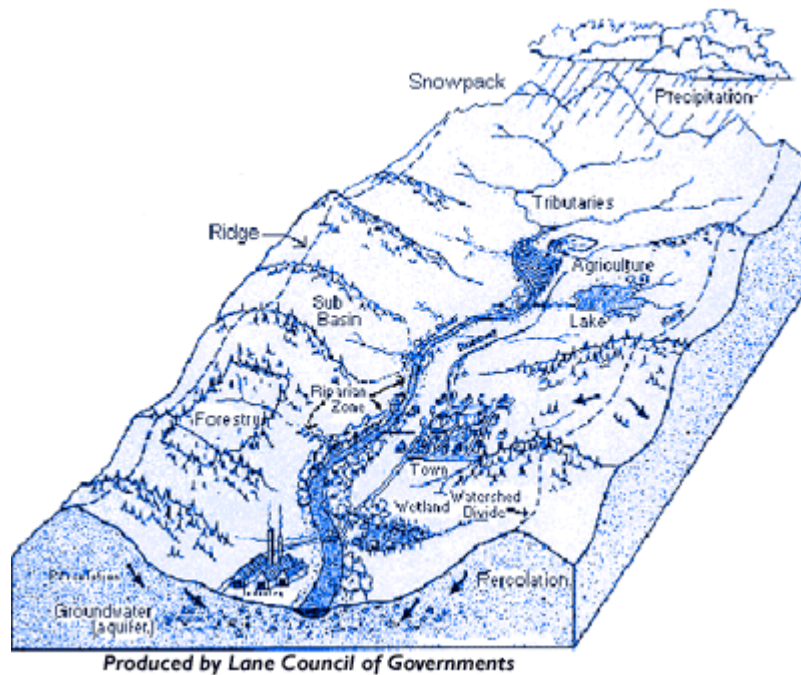
Note to teacher: This second blessing of the Shema is the very blessing that the U.S. Reform movement removed from the Siddur, as it strongly represents the Reward and Punishment Theology that many liberals reject. Our intent here is to show the centrality of rain to Jewish religiosity, not to start a discussion on Divine Reward and Punishment (but if you have time and desire...).

## **Part Two: Understanding the Water Cycle**

The water cycle is one of the core systems of our planet. It moves water, purifies it, sustains life around the globe, and all (mostly) out of sight. If we don't pay attention to it, we miss one of the great miracles of our world. In our exploration of the water cycle and in our closer look at a watershed we are going to open our eyes to the radically amazing natural process before us.

"A water shed is the area of land where all of the water that is under it or that drains off of it goes into the same place. Watersheds come in all shapes and sizes. They cross county, state, and national boundaries. In the continental US, there are 2,110 watersheds" (EPA,

2012). Water may flow from one main river out to smaller streams and eventually, out to the ocean. Let's take a look at a map of our local community and see if we can see where the watershed is. There is an example of a watershed below.



Produced by Lane Council of Governments  
(EPA, 2012)

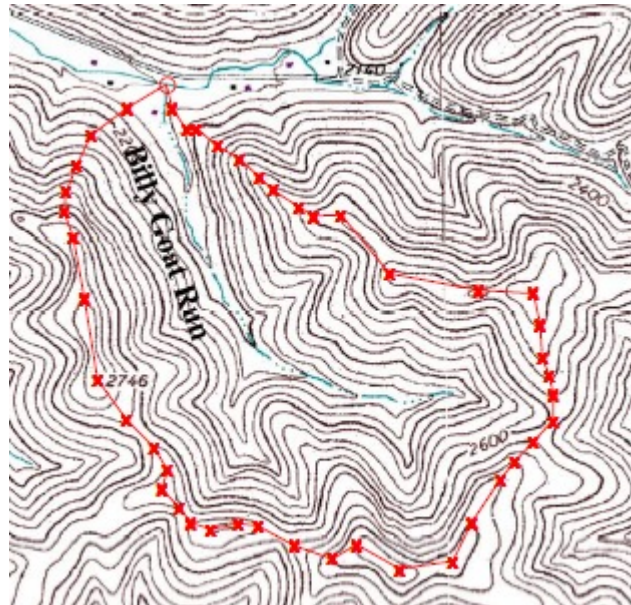
### Havayah/Activity

1. *With the help of the teacher, participants will look at a topographical map and find the boundaries of the watersheds near their local communities. Note to Teacher: If you and your students are new at using topographical maps it might be tricky to identify the watershed near your community. The following link provides a fantastic description of how to do that:*

[http://www.wvca.us/envirothon/pdf/Watershed\\_Delineation\\_2.pdf](http://www.wvca.us/envirothon/pdf/Watershed_Delineation_2.pdf)

*Basically, the steps are to:*

- *Find the stream or river for which you want to identify the watershed to which it belongs.*
- *Find the mouth of the river, where it flows into a larger river, lake, or other large body of water.*
- *Using the mouth of the river as a starting point, find the highest points of elevation, by looking at the contour lines on the topographic map, around the river that create the physical boundaries in which all the water flows downhill to the river.*
- *Below is an example of an identified watershed. Notice how the watershed boundaries follow the peaks and the ridgelines on the map.*



2. *Once participants have looked at and understand what the watershed in their area looks like, participants break into hevruta partners to create their own watershed outside on the ground.*
3. *Participants should use sticks or their hands to dig shallow trenches to mark their watershed streams.*
4. *Once the hevruta pairs have finished their watersheds, the instructor will give each group some water to send down their watershed.*

### Havayah/Activity

We have learned about watersheds and their importance to moving water around. But the watershed is just a part of the larger picture. The water cycle, how water moves not just in liquid form in rivers and streams but underground, in our bodies, and in gases, keep the world moving. It is that unseen miracle which caused our ancestors to understand that water was a life force. Particularly for a desert people who prayed for rain and lived off rain-watered agriculture in the Land of Israel rather than irrigate their crops from rivers, the water cycle played a critical role in Israelite faith.

But what really goes on to a molecule of water as it passes through the water cycle? How does it venture from the sea to the top of the Grand Tetons and back again? Let's find out!

*Participants are given paper and pencils. Each participant is asked to write a first-person narrative of a water molecule as it travels through the water cycle.*

An example of part of the story that a student might write could be something like:

"I felt myself being lifted into the sky. As I waved good bye to my friends below I saw that I was about to be reunited with many of my other friends above me whom I had not seen

for a long time. After reaching the cloud and becoming one with it, I began the long journey towards dry land.”

*After time for writing, a few participants are asked to share their story.*

*After the initial sharing, the group leader continues:*

Thank you for your excellent narratives! What I find so interesting about this sharing is how integrated the stories are. Each story can flow into the next (yes, pun intended), because each story is interconnected to every other story, just as the entire water cycle is all connected. This time, we are going to start our cycle with one person, when that person's section of the journey is finished, another person who thinks their portion of the story is connected will jump in. Let's see where our group water cycle takes us!

*The group reads their entire water cycle story. For a shorter version, participants can be asked to read just a section of their narrative during this portion of the activity.*

### **Part Three: Jewish Values Connected to the Water Cycle**

#### Limmud/learning and discussion

*Again, present the following material in the way you feel best suits your students, appropriate to their background. You might give them copies of the sources and ask for their reactions. You might begin by asking, what does the water cycle have to do with Judaism? Sometimes, in dealing with a more or less straightforward point, the best strategy is not to try to have the students discover the obvious, but to present it, and then to ask, do you agree or disagree? Is this a message that is relevant to the environmental problems we have today? Is this relevant to you? Please use your knowledge of your students and your judgment in relaying these sources and values.*

#### **1. Praying in Accord with the Natural Rhythms of the Water Cycle in the Land of Israel**

The second blessing of the Amidah has a line that changes with the seasons:

Summer: *Moreed hatal*, You bring the dew

Winter: *Maisheev haruach u'moreed hagashem*, You cause the wind to blow and You cause the rain to fall.

Why the change? If God controls the rain (regardless of our beliefs today, those who wrote and approved of these prayers believed that God could make it rain at any time), why not ask for rain in summer?

Our ancestors did not ask for the “miracle” of God causing rain to fall out of season, but for the normal, regular cycles of nature to occur in their abundance. They asked for what the

natural rhythm had already proved itself capable of. They prayed for nature to be giving, rather than lacking.

This can lead to a larger discussion as to when it is appropriate to pray for a “miracle,” that is, something against the normal course of nature, in other areas, such as illness.

## **2. The Interconnectivity of All Life as an Expression of Monotheism**

We return to the text with which we began.

### **Bereshit (Genesis) Rabbah 13:3**

Three things are of equal importance: earth, humans, and rain...each word [in Hebrew] has three letters to teach us that without earth, there is no rain, and without rain, the earth cannot endure, and without either, humanity cannot exist.

In addition to recognizing the role of water in our very existence (mentioned above), this source also alludes to the interconnectivity of all things in the circle of life, for there is no earth without rain and no rain without the earth. And there are no human beings without each.

Our tradition recognizes that the water cycle itself is also a circle.

### **Kohelet (Ecclesiastes) 1:7**

All streams flow into the sea,  
Yet the sea is never full.  
To the place from where the rivers flow,  
There they return.

Together, these texts touch on an important point. Life exists in the context of cycles and circles, without which we could not live. One thing that characterizes life on earth is the interconnectivity or interconnectedness of all non-living things and living beings, including human beings.

One important interpretation of monotheism, of the belief in one God rather than many gods, is that the many forces and multiplicity of life in our universe come from one Source. The universe and its amazing diversity were created and evolved as one system. This accords with what astronomy, physics and evolutionary biology reveal about our world. Many people think of this when they say the Shema Yisrael in our daily prayers. The belief in one God leads to the recognition of, or reflects, the unity of our one universe.

## Sikkum/Closing

We can explore a landscape with our senses and have a wonderful sensory experience. We can even have a mystical or transcendent experience without the need of any scientific knowledge. However, if our aim is to understand the subtle and sometimes not so subtle connectedness that exists between all the parts of an ecosystem, we explore from a scientific perspective. When we do that we are being naturalists. Here is a short passage about being a naturalist from one of the most famous living naturalists, E. O. Wilson:

“The naturalist goes alone into the field or woodland and closes her mind to everything but that time and place, so that life around her presses in on all the senses and small details grow in significance. The naturalists’ vision of exploring life engages things close to the human heart and spirit. Organisms are the natural stuff of metaphor and ritual. To the degree we come to understand other organisms, we will place greater value of them, and on ourselves.”

The prophet Isaiah wrote that, "Joyfully you will draw water up from the well of eternity. Water in joy!" When we draw water up to us from the earth, when we watch it come out of our sink at home, and when we play along the shores of the ocean as the tide rushes in, we are continuing that cycle - the water cycle. Isaiah's message to us is a reminder that we should not let moments like that pass us by. We should instead be joyful. So let's close it out with one more round of the water cycle boogie!

Evaporation, Condensation, Precipitation  
The water cycle boogie goes round and round  
The water cycle boogie goes up and down

## **References**

United States Environmental Protection Agency. 2012. What is a Watershed? Retrieved from: <http://water.epa.gov/type/watersheds/whatis.cfm>