

HIGH ABOVE THE  
BITTERROOT  
MOUNTAINS

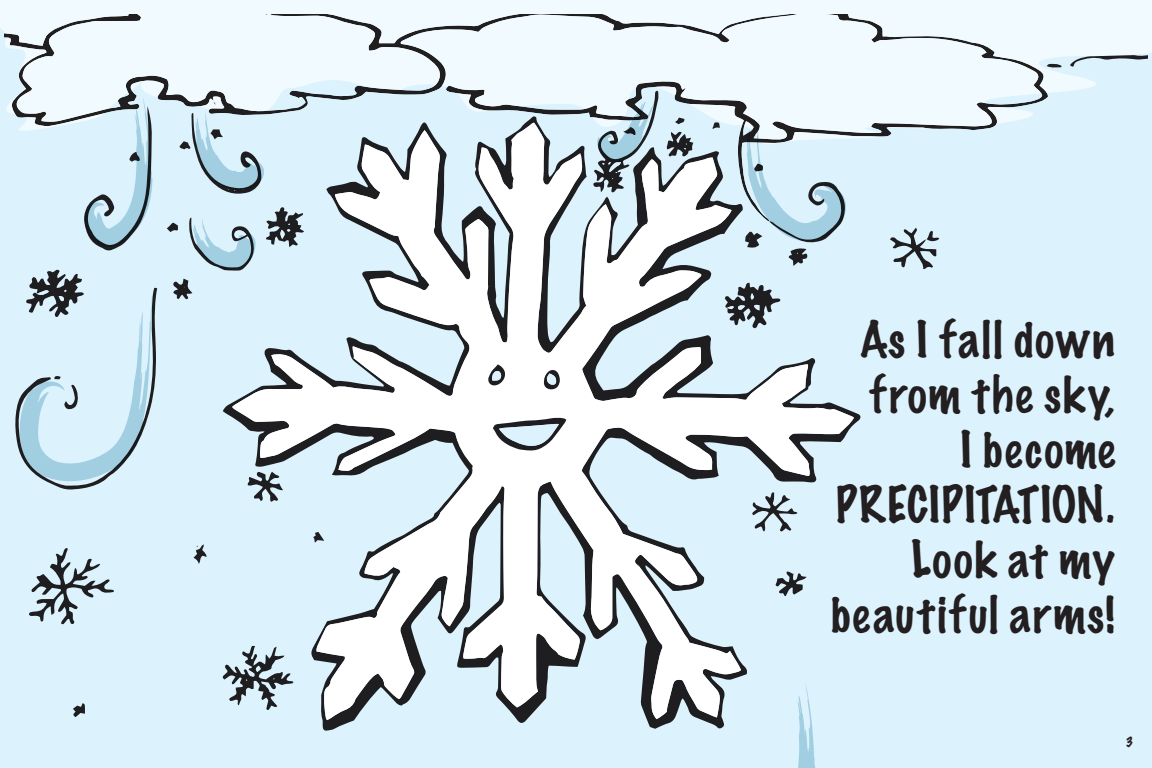
Hi! I'm Drippy the Water Drop.  
I'm taking a rest after my long trip  
from the ground to high in the sky.





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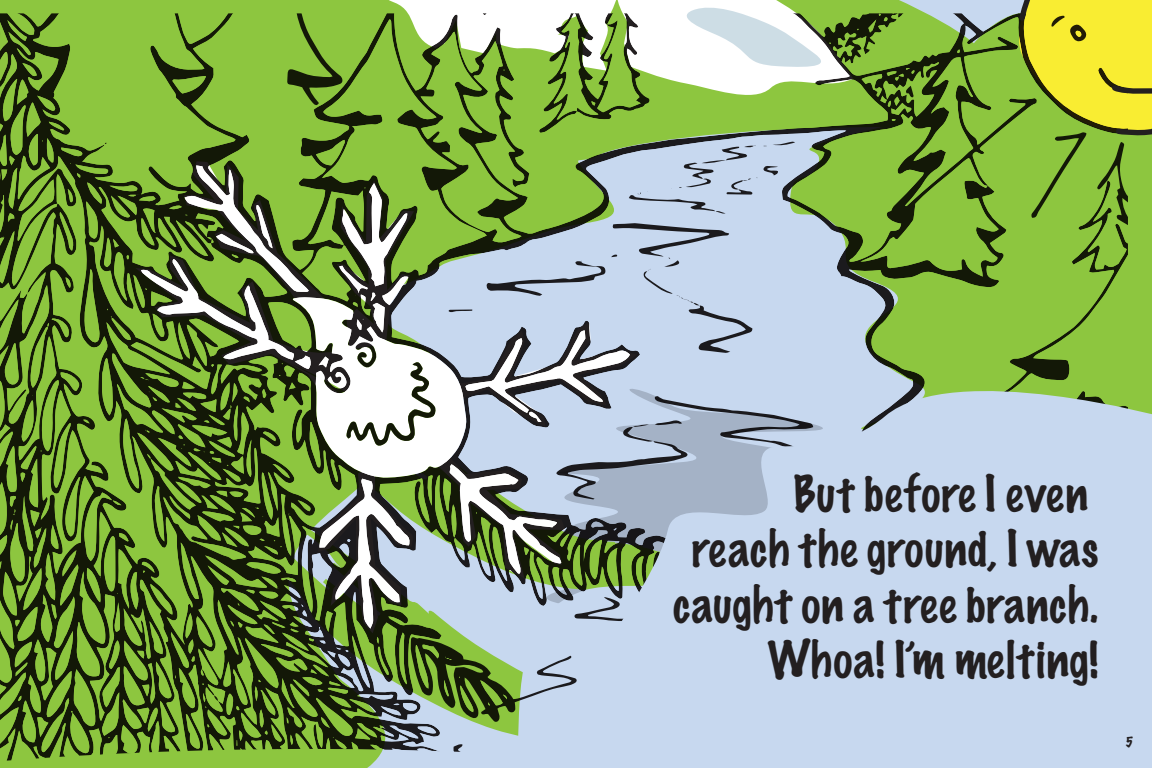
Brrrr! I'm getting really cold up here.  
It feels like it's time  
for me to transform  
into snow.



As I fall down  
from the sky,  
I become  
**PRECIPITATION.**  
Look at my  
beautiful arms!



I'm on my way to join  
my fellow snowflakes  
that cover the mountains.



But before I even  
reach the ground, I was  
caught on a tree branch.  
Whoa! I'm melting!

Suddenly, I drip off the branch and plop right into the mountain stream to join the other drops as **RUNOFF**.



I am cruising fast down  
this stream, joining the  
**SURFACE WATER**  
in the **WATERSHED**.



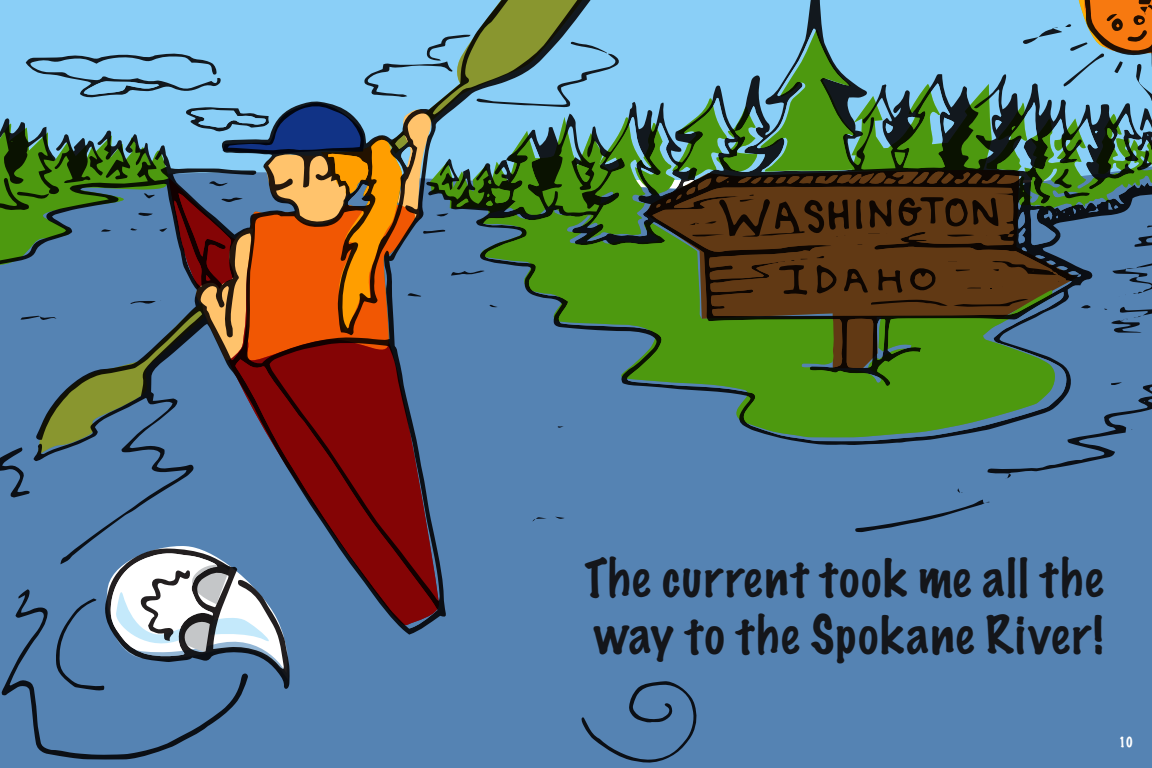


Whoa! It didn't take long for me to reach Coeur d'Alene Lake from the mountain stream.



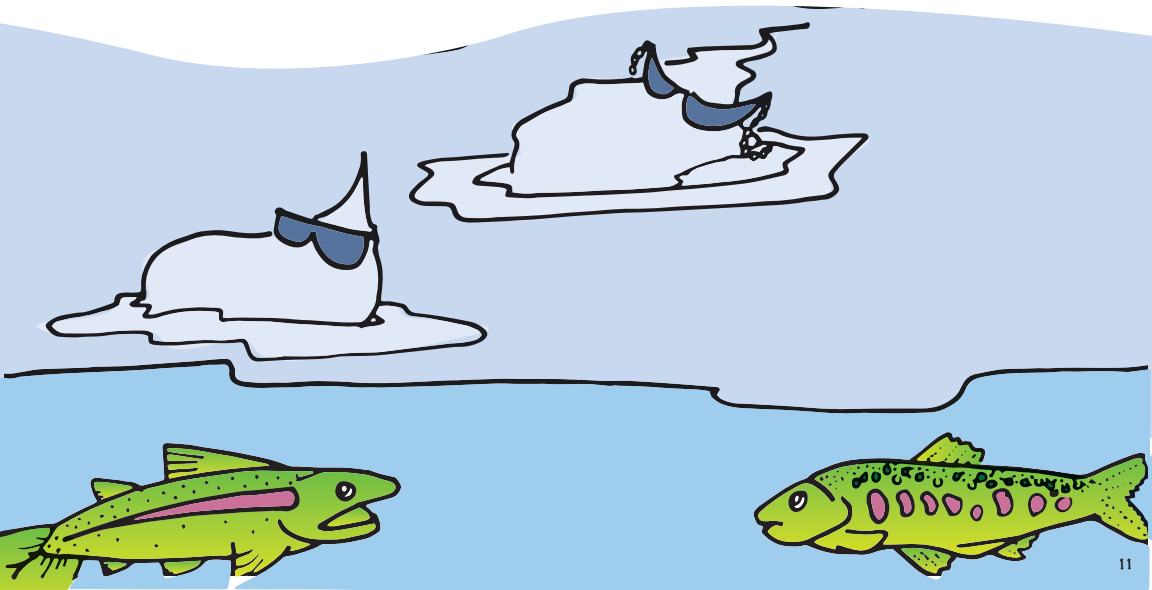


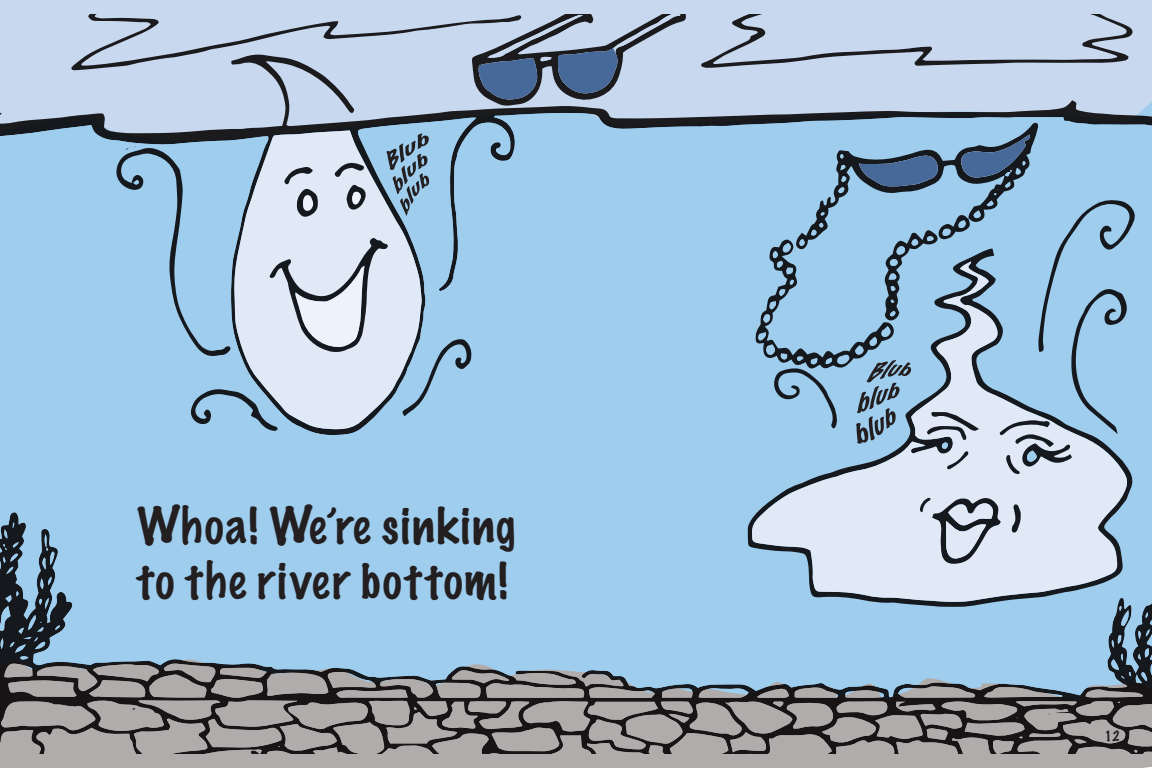
Time for a break! I'm going to rest while the **CURRENT** takes me across the lake.



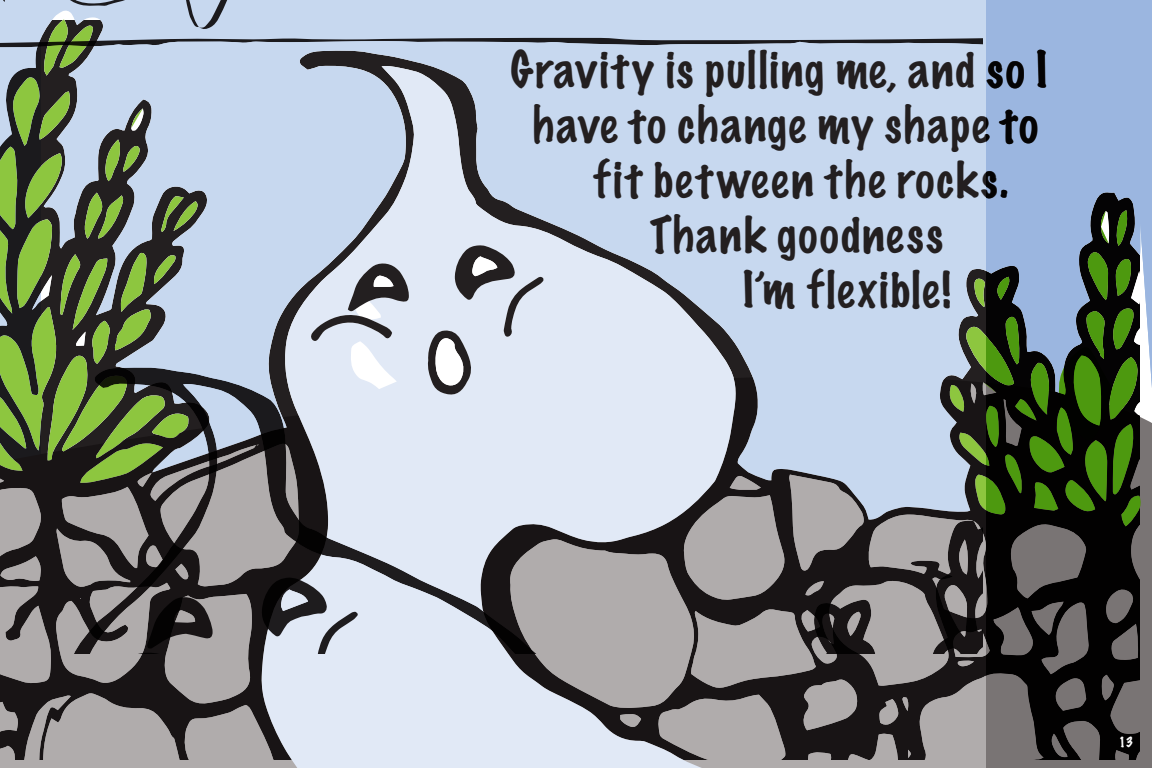
The current took me all the way to the Spokane River!

Hey! I found some friends that just came from the Spokane Valley Rathdrum Prairie Aquifer.





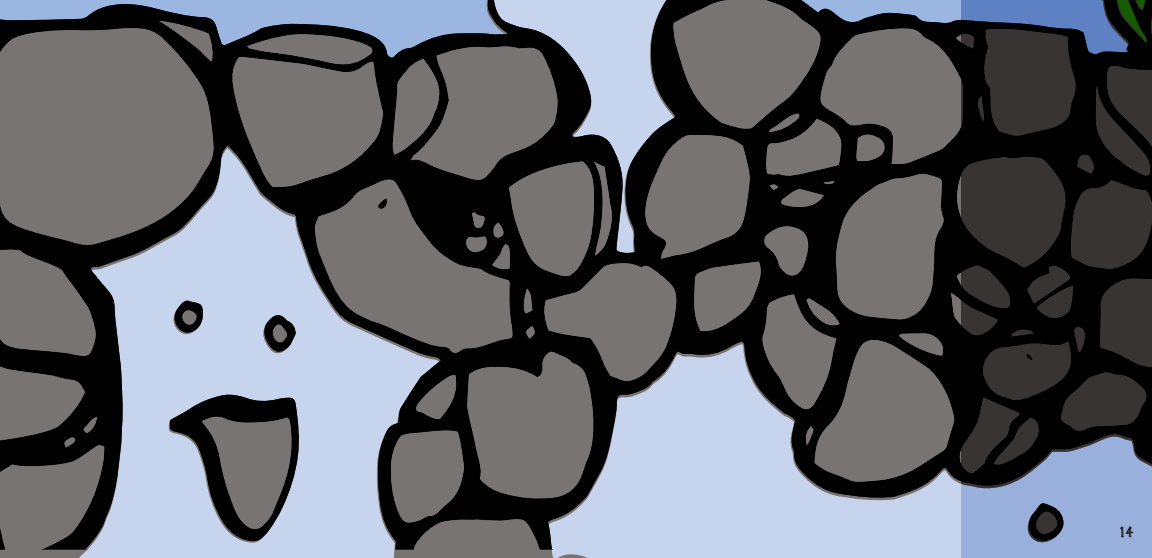
Whoa! We're sinking  
to the river bottom!




Gravity is pulling me, and so I  
have to change my shape to  
fit between the rocks.  
Thank goodness  
I'm flexible!

Now we've traveled from  
the surface water into  
the ground...

so you can call us  
**GROUNDWATER!**





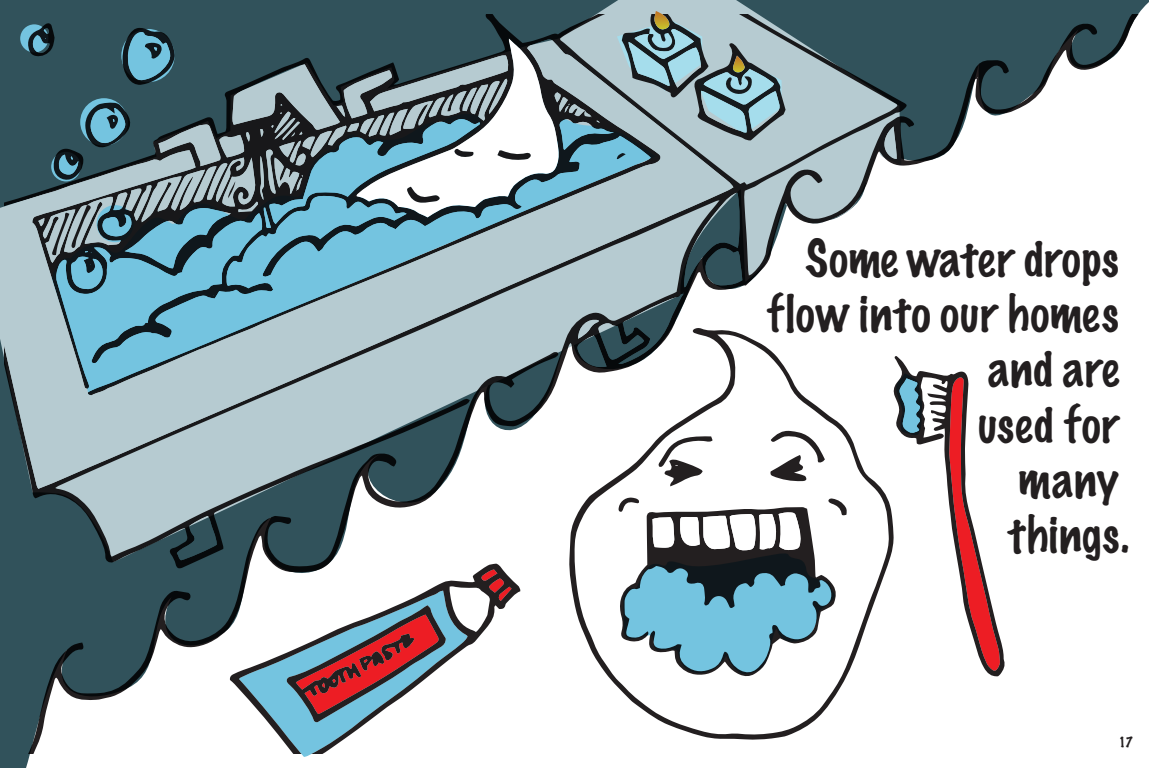
We were just getting comfortable in the cool **AQUIFER**, and then we were suddenly **PUMPED** out through a **WATER WELL**!

I'm still underground, but  
now I'm flowing fast through  
**PIPES** that lead to homes...

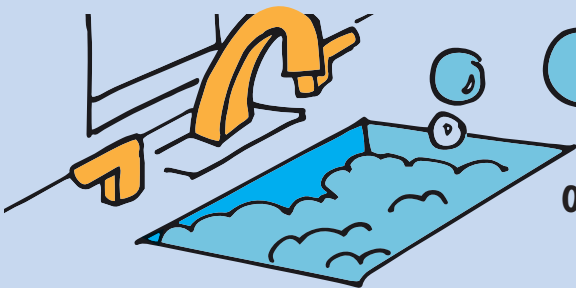
...and businesses! I wonder where  
I'll go! Maybe to your home?!







Some water drops  
flow into our homes  
and are  
used for  
many  
things.

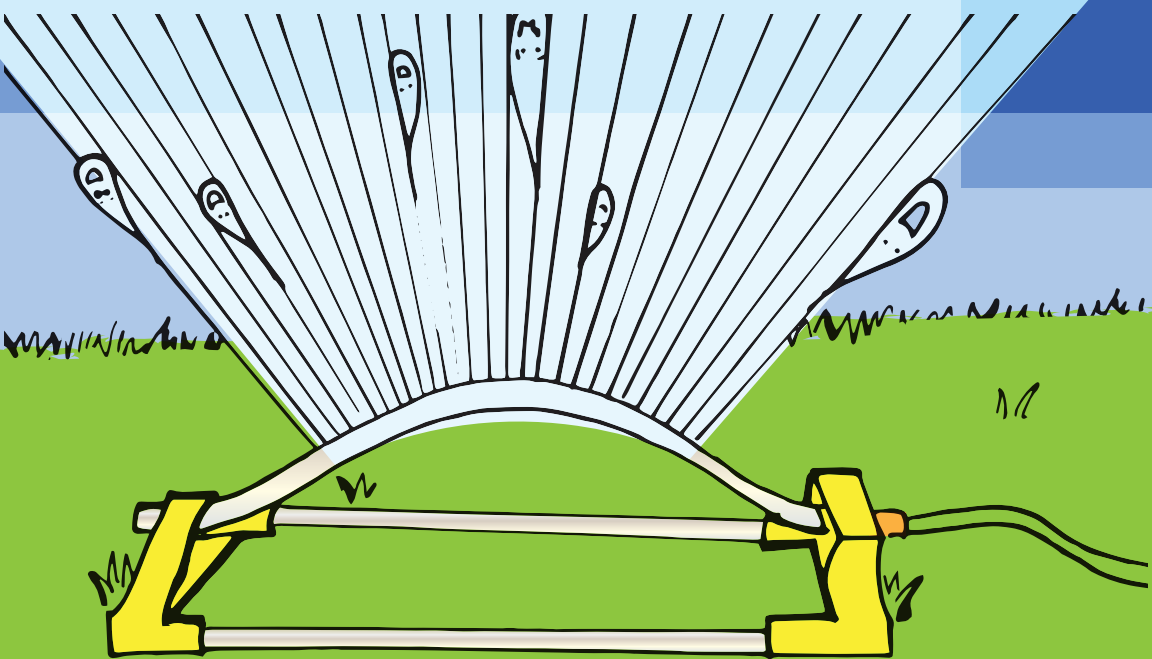


Water drops  
that go down  
our drains...



...and toilet are  
called **WASTEWATER.**





Woo! Here we go out through a sprinkler! Weeee!!!



Oh NO! My friend  
landed on an oil spill!  
That's **STORMWATER  
POLLUTION!**



Another friend lands on the sidewalk and **EVAPORATES** without helping the grass.



How can you conserve water  
inside and outside of your home?



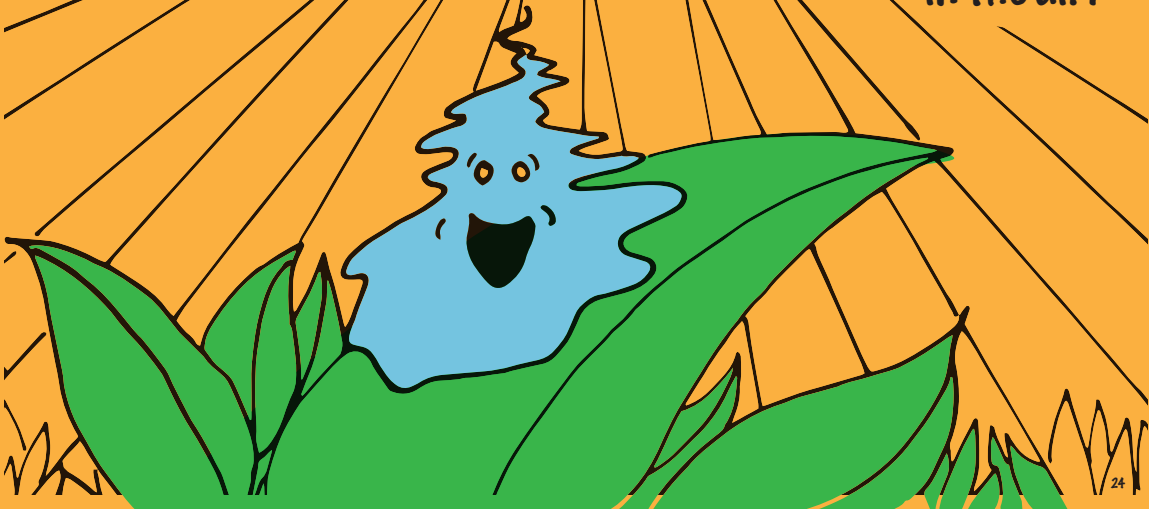
I've landed on a  
blade of grass...

...but am feeling too  
dizzy and warm from  
the heat to help  
the grass.

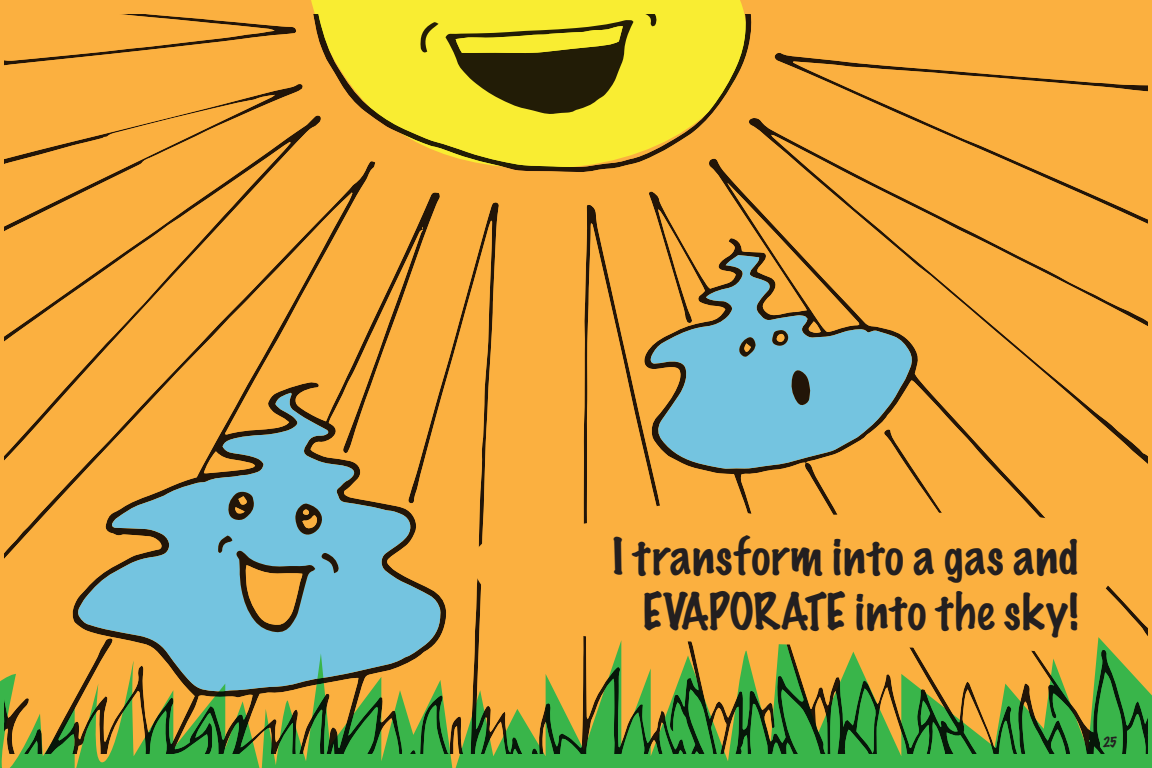


**I start to feel even warmer...**

**...and begin to float  
in the air!**







I transform into a gas and  
**EVAPORATE** into the sky!



As I rise high in the atmosphere...

...I've cooled back down...

...and **CONDENSE** into a cloud.

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I've now completed the **WATER CYCLE!**  
Time to rest in the clouds until  
the cycle begins again!



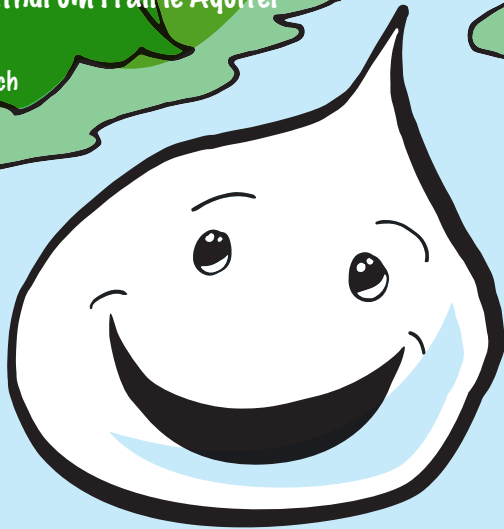
# The Adventures of Drippy the Water Drop!


A Spokane Valley Rathdrum Prairie Aquifer  
Water Cycle Lesson

Artwork by Kayla Wakulich  
Graphics by Eric Miller



Funded by the Idaho Washington  
Aquifer Collaborative  
[www.IWAC.us](http://www.IWAC.us)





**Drippy the Water Drop - A Spokane Valley Rathdrum Prairie (SVRP) Aquifer Water Cycle Lesson** is provided by the Idaho Washington Aquifer Collaborative (IWAC), a regional nonprofit collaboration partnering in shared stewardship of the Spokane Valley Rathdrum Prairie Aquifer, and the Spokane River watershed. Our goal is to maintain and enhance water quality for present and future generations. Drippy is available in full-color or in a black and white (coloring) version. A pdf of the card sets can be downloaded at [www.iwac.us](http://www.iwac.us).

Contact local informal educators for a classroom visit or field trip to a local area hydropower facility, historic water well, wastewater treatment facility, wetland or creek.

**City of Spokane Water & Stormwater** - Kristen Zimmer - [kzimmer@spokanecity.org](mailto:kzimmer@spokanecity.org)

**Coeur d'Alene Lake Waterkeeper | KEA** - [kea@kealliance.org](mailto:kea@kealliance.org)

**Kootenai County Aquifer Protection District** - Kristy Reed Johnson - [kristyrj@roadrunner.com](mailto:kristyrj@roadrunner.com)

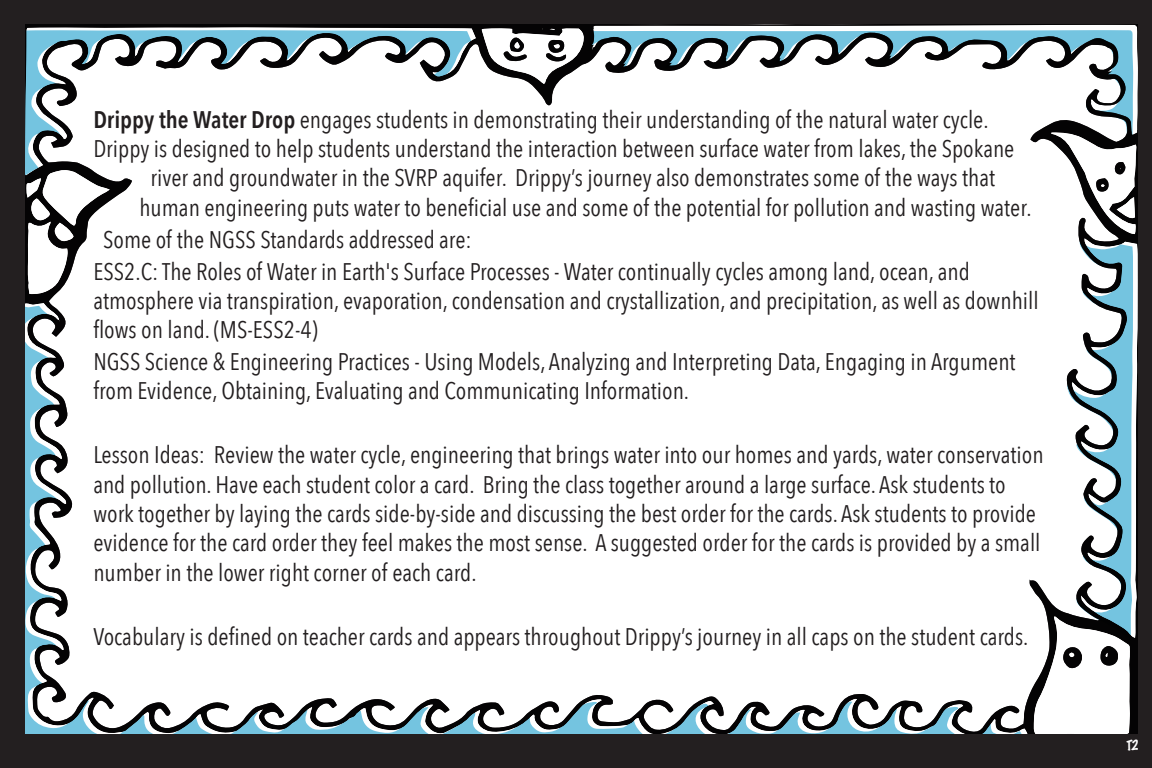
**Spokane Aquifer Joint Board** - Tonilee Hanson - [sajbinfo@gmail.com](mailto:sajbinfo@gmail.com)

**Spokane County Water Resource Center** - Toni Taylor - [tntaylor@spokanecounty.org](mailto:tntaylor@spokanecounty.org)

**University of Idaho Extension** - Jim Ekins - [jekins@uidaho.edu](mailto:jekins@uidaho.edu)

**Idaho Dept of Environmental Quality** - Alyssa Gersdorf - [alyssa.gersdorf@deq.idaho.gov](mailto:alyssa.gersdorf@deq.idaho.gov)

**Spokane Conservation District** - Stacey Selcho - [stacey-selcho@sccd.org](mailto:stacey-selcho@sccd.org)



**Drippy the Water Drop** engages students in demonstrating their understanding of the natural water cycle. Drippy is designed to help students understand the interaction between surface water from lakes, the Spokane river and groundwater in the SVRP aquifer. Drippy's journey also demonstrates some of the ways that human engineering puts water to beneficial use and some of the potential for pollution and wasting water.

Some of the NGSS Standards addressed are:

ESS2.C: The Roles of Water in Earth's Surface Processes - Water continually cycles among land, ocean, and atmosphere via transpiration, evaporation, condensation and crystallization, and precipitation, as well as downhill flows on land. (MS-ESS2-4)

NGSS Science & Engineering Practices - Using Models, Analyzing and Interpreting Data, Engaging in Argument from Evidence, Obtaining, Evaluating and Communicating Information.

Lesson Ideas: Review the water cycle, engineering that brings water into our homes and yards, water conservation and pollution. Have each student color a card. Bring the class together around a large surface. Ask students to work together by laying the cards side-by-side and discussing the best order for the cards. Ask students to provide evidence for the card order they feel makes the most sense. A suggested order for the cards is provided by a small number in the lower right corner of each card.

Vocabulary is defined on teacher cards and appears throughout Drippy's journey in all caps on the student cards.

## VOCABULARY

**aquifer** (n) c15: a water-bearing layer of rock, sand, or gravel capable of absorbing water\*

**condense** (v) c25: to change from a less dense to a denser form\*

*As water vapor rises up high in the sky it cools and turns back into a liquid, forming clouds.*

**evaporates** (v) c21: changes into vapor or a gaseous state from a liquid or solid state

*Energy from the sun heats up water and changes from a liquid into a gas or vapor*

**groundwater** (n) c14: water that collects or flows beneath Earth's surface that supplies wells and springs\*

**melting** (v) c5: to change from a solid to a liquid state usually through heat\*

**pipes** (n) c16: a long tube or hollow body for carrying a substance (as water, steam, or gas)\*

**pollution** (n) c20: substances that are harmful to the environment and not safe or suitable to use

**precipitation** (n) c3: water that falls to the earth as hail, mist, rain, sleet, or snow\*

*When too much water has condensed, the water droplets in the clouds become too big for the air to hold them and so they fall back down to Earth as rain, snow, hail or sleet.*

**pumped** (v) c15: past tense to draw or move fluid especially by suction or pressure or both

**runoff** (n) c6: water from rain or snow that flows over the surface of the ground and finally into streams\*

## VOCABULARY

**stormwater** (n) c20: surface water resulting from heavy falls of rain, snow and snow/ice melt  
*Rainwater or melting snow that runs down streets and off of lawns and driveways. Stormwater can pick up pollutants like oil, fertilizer, and chemicals and carry them into storm drains, rivers and streams.*

**surface water** (n) c7: water that sits above ground in rivers, lakes, wetlands and oceans

**water cycle** (n) c27: the series of conditions through which water naturally passes from water vapor in the air to being deposited (as by rain or snow) on earth's surface and finally back into the air especially as a result of evaporation\*

*The continual movement of water among Earth's atmosphere, oceans, and land surface through evaporation, condensation, and precipitation.*

**watershed** (n) c7: an area of land bounded peripherally by a divide and draining ultimately to a body of water  
*an area of land that contains a common set of streams and rivers that all drain into a single larger body of water*

**wastewater** (n) c18: water that has been used by humans in washing, flushing, manufacturing, etc.; sewage.

**water well** (n) c15: a hole sunk into the earth to reach a supply of water

\*FROM MIRIAM WEBSTER'S KID FRIENDLY DICTIONARY  
WORDCENTRAL.COM