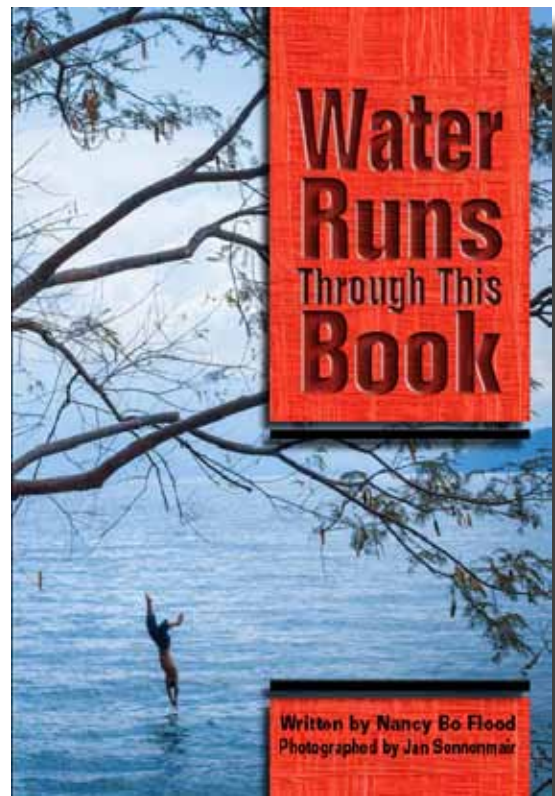


A Next Generation Science  
and Common Core State  
Standards Aligned Project  
& Activity Guide for

# Water Runs Through This Book



Grades 2-5

ISBN: 9781936218134

Written by Nancy Bo Flood

Photographs by Jan Sonnenmair

Published by Fulcrum Publishing

*Through photographs, verse and narration, this book celebrates the most essential ingredient to life: water. Author and educator, Nancy Bo Flood and award-winning photographer, Jan Sonnenmair, combine imagination and information to explore this ever-changing and mysterious element. Water Runs Through This Book teaches how water runs through all aspects of our lives. Including everyday tips to help conserve, it will inspire children and adults to value water resources and to become better global citizens.*

Guide Created by Debbie Gonzales



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## The Molecules on the Move Game

*All the water that was on the earth for dinosaurs to drink is still here for us. Recycled.*

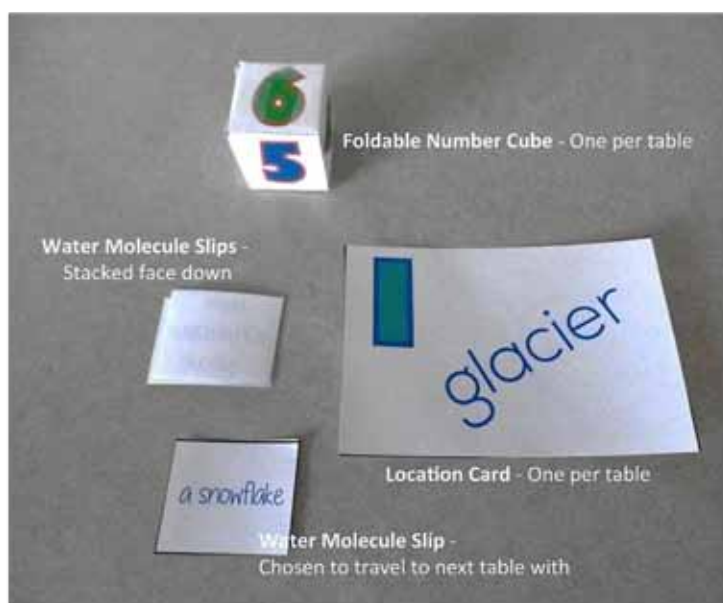
**Objective:** To demonstrate and simulate the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.

### Materials:

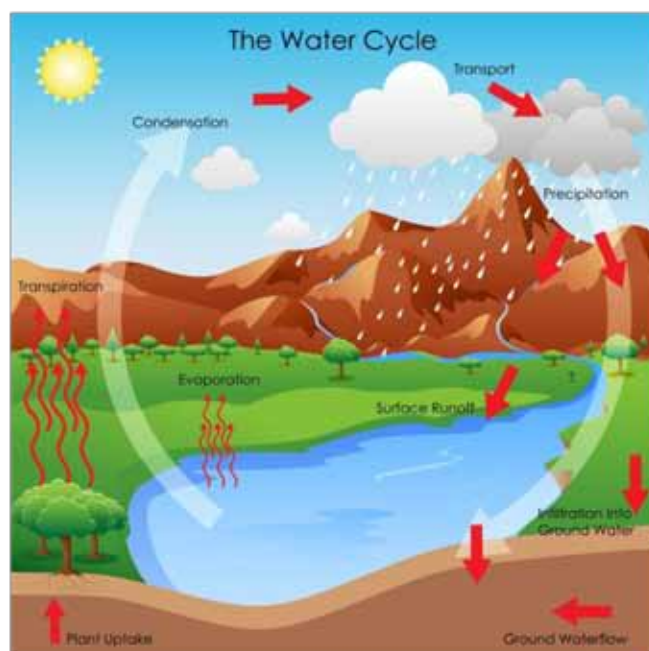
- Cardstock
- Scissors
- 6 tabletops
- Tape
- Pencil
- 6 Foldable Numbered Cubes (Guide, pg. 4)
- Location Cards (Guide, pg. 5-6)
- Water Molecule Slips (Guide, pg. 8-10)
- *Water Runs Through This Book*

### Procedure:

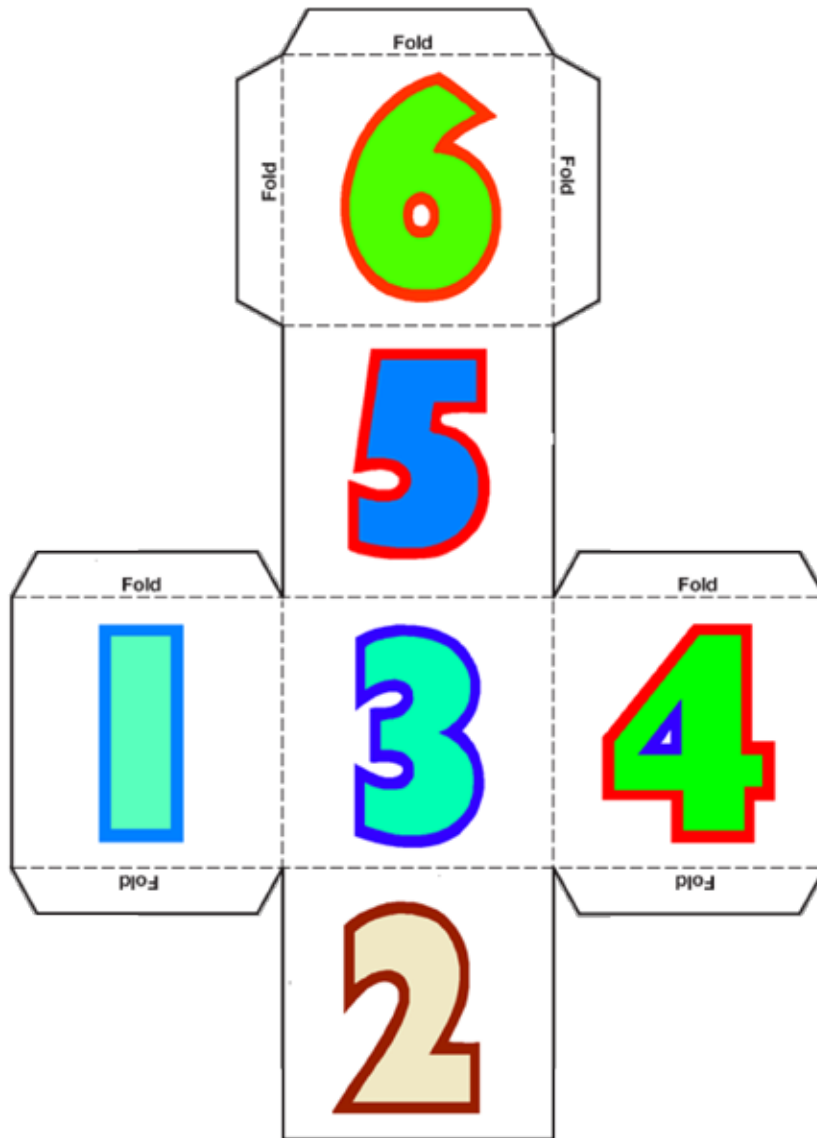
- Before preparing to play the **Molecules on the Move Game**, read the chapter entitled 'Water Wants to Move' in *Water Runs Through This Book*, aloud to the students. Engage in a discussion, encouraging students to respond to what has been read. Explain that water molecules assume various forms and that they have been recycled since the prehistoric era.
- To prepare for the game, print **Foldable Numbered Cubes**, **Location Cards**, and **Water Molecule Slips** on cardstock.
- Use scissors to trim around the edges of the **Foldable Numbered Cubes**, **Location Cards**, and **Water Molecule Slips**.
- Fold and form cube shapes with the **Foldable Numbered Cubes**. Secure the edges with tape.



- Note that a few of the **Water Molecule Slips** are blank. Instruct the students to reread the 'Water Want to Move' chapter in *Water Runs Through This Book* to discover other water sources to label on the blank cards.
- Divide **Water Molecule Slips** into 6 stacks.
- Place a **Location Card**, **Foldable Number Cube**, and a stack of **Water Molecule Slips** face down on each of the tabletops.
- Beginning at any table, instruct the students to choose and read a **Water Molecule Slip**.
- Next, instruct the student to roll the **Foldable Numbered Cube** and to take their **Water Molecule Slip** with them to the table with the corresponding numbered **Location Card** – card #1 being a glacier, #2 being clouds, #3 being your body, #4 being the ocean, #5 being a river, and #6 being a watershed.
- Instruct student to leave their original **Water Molecule Slip** on the table and choose another one, read it, and then roll the **Foldable Numbered Cube**.
- Repeat the moving from table to table as directed by the dice. Be certain that they take their **Water Molecule Slip** with them as they go, making sure to leave a **Water Molecule Slip** before taking another.
- After some time, ask the students to make an observation regarding the movement of water molecules.



### Foldable Numbered Cubes (Print 6)



Location Cards



The ocean

river

a watershed



### Water Molecule Slips

beads of sweat	ancient underground water	swimming pool splash	vapor
a snowflake	ice cap	bubble bath	snow ball
a drip from an icicle	sprinkler	fish tank	a firm
tears	water gun squirt	rain drop	sleet





fog	dishwasher	water fountain	a mud puddle splash
a water bottle	garden hose	volcanic lake	blood
doggie drool	pot of boiling water	a cowboy's canteen	urine
horse trough	your tooth brush	a pond at the park	a sneeze






## The Water Cycle Sorting Foldable

*Water runs through, disappears, collects, and evaporates.*

**Objective:** To create a project describing the cycling of water molecules throughout the water cycle.

### Materials:

- Water Cycle Foldable (Guide, pg. 12)
- Water Cycle Sorting Cards (Guide, pg. 13)
- Cardstock
- Scissors
- Stapler
- The Water Cycle Sorting Foldable Answer Sheet (Guide, pg. 14)



### Procedure:

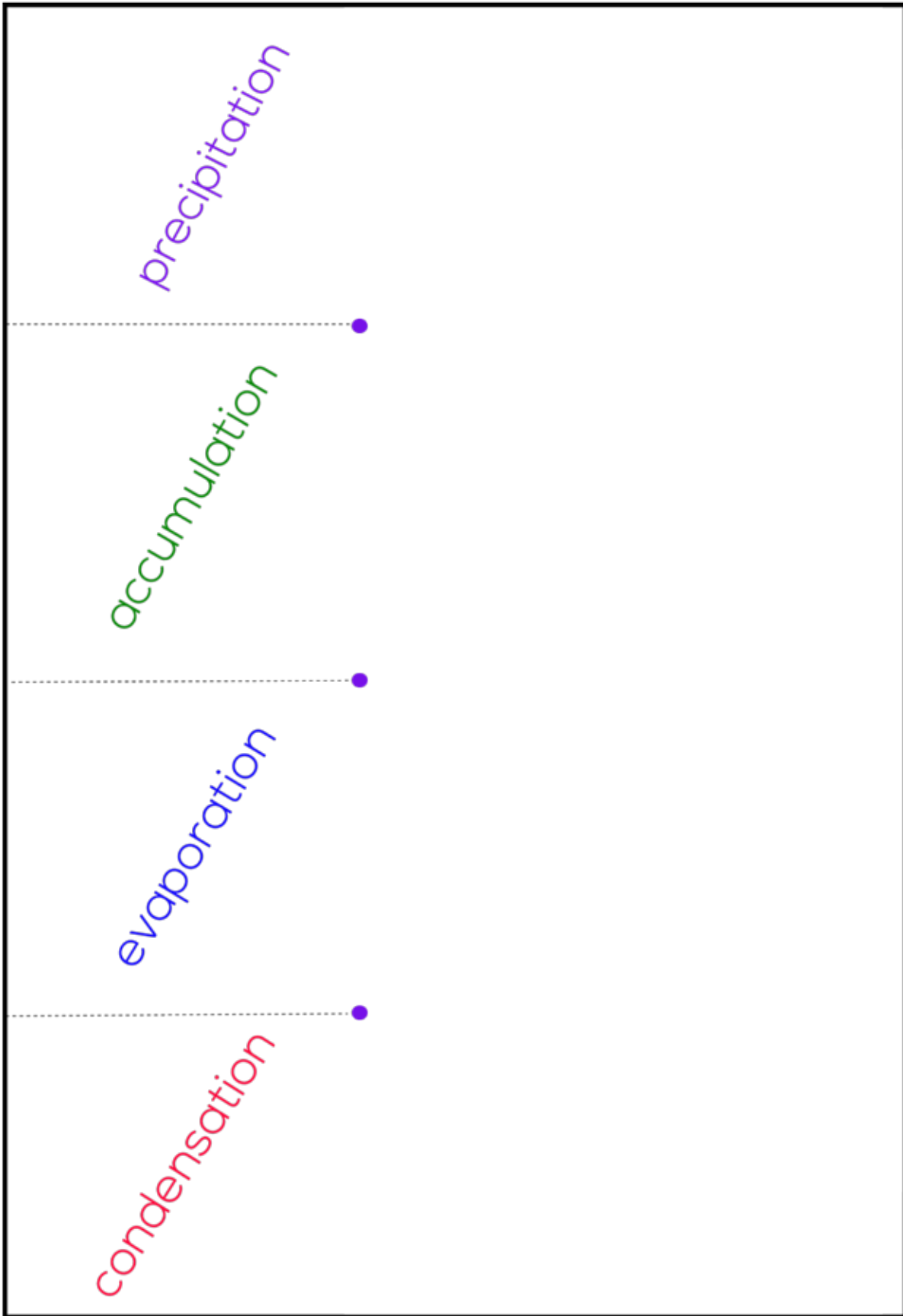
- Print **Water Cycle Foldable** and **Water Cycle Sorting Cards** on cardstock.
- Using scissors, trim around the outer border of the **Water Cycle Foldable** and the **Water Cycle Sorting Cards**.
- Fold the bottom edge of the **Water Cycle Foldable** upward so that the labeled sorting slots are facing outward. Crease well.
- Staple the foldable's outer edge. Insert two or three staples on the dotted lines, creating four sorting pockets.
- Sort **Water Cycle Sorting Cards** placing each in its designated slot.
- Check your work using the **Water Cycle Sorting Foldable Answer Sheet**.



### Definition Review:

- **Evaporation** – the vaporization of a liquid that occurs from the surface of a liquid into a gaseous state.
- **Precipitation** – any kind of weather condition when some form of water is falling from the sky.
- **Accumulation** – process in which water pools into large bodies.
- **Condensation** – when water vapor in the air condenses from gas back into liquid form.





	<p>rain drop</p>		<p>snow flake</p>
	<p>hail stones</p>		<p>slowly decreasing water level in a glass of liquid</p>
	<p>dried sweat</p>		<p>a water puddle drying in the sun</p>
	<p>clouds</p>		<p>water that gathers on a bathroom mirror after a hot shower</p>
	<p>water that gathers on a cold glass of water on a hot day</p>		<p>oceans</p>
	<p>rivers</p>		<p>lakes</p>

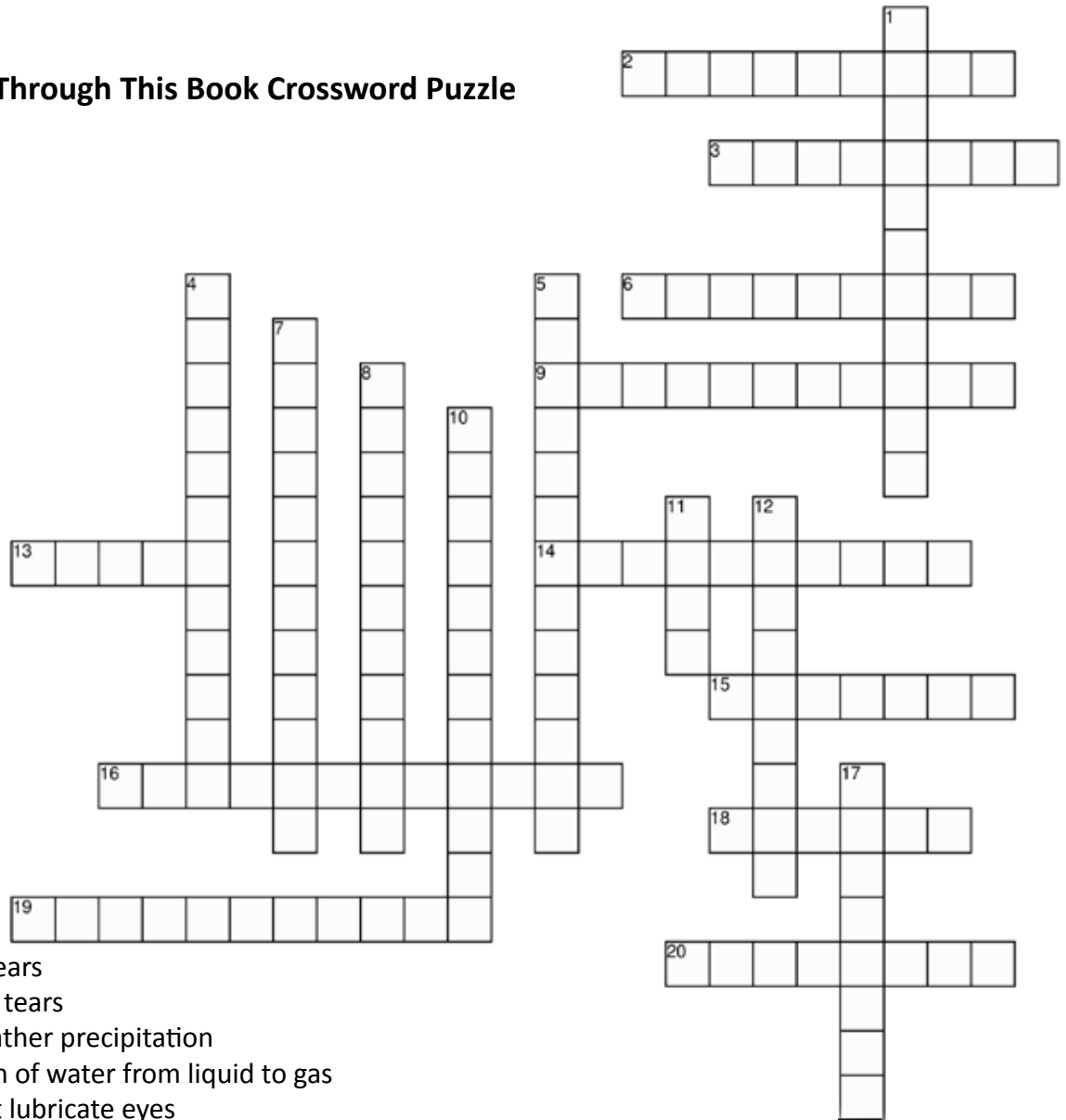


## The Water Cycle Sorting Foldable Answer Sheet

<b>condensation</b>	water that gathers on a cold glass of water on a hot day
	water that gathers on a bathroom mirror after a hot shower
	clouds
<b>evaporation</b>	a water puddle drying in the sun
	slowly decreasing water level in a glass of liquid
	dried sweat
<b>accumulation</b>	lakes
	oceans
	rivers
<b>precipitation</b>	snow flake
	rain drop
	hail stones



## Water Runs Through This Book Crossword Puzzle



### Across:

2. Mineral found in tears
3. Glands that create tears
6. A form of cold weather precipitation
9. The transformation of water from liquid to gas
13. Type of tears that lubricate eyes
14. The artificial application of water to the land or soil
15. A long period of abnormally low rainfall
16. The transformation of water vapor to liquid water droplets in the air, creating clouds and fog
18. Type of tears that wash away irritants and dust
19. Condition experienced when a person needs water
20. A huge mass of ice slowly flowing over a landmass

### Down:

1. Planting only drought resistant, low-water use plants
4. The part of the water cycle in which water gathers in large quantities such as rivers, lakes, oceans, glaciers, ice caps and aquifers
5. Any form of water, such as rain, snow, sleet, or hail that falls to the earth's surface
7. Water that makes people sick to drink
8. Scientist who studies the properties, distribution, and circulation of water
10. The preservation and management of natural resources
11. A type of snow that has been left over from past seasons
12. An environmental community on moisture that falls in the area
17. Bird that cries salty tears

### Water Runs Through This Crossword Puzzle Answers

A crossword puzzle grid with the following words filled in:

- 1. x
- 2. manganese
- 3. lacrimal
- 4. alum
- 5. precipitation
- 6. snowflake
- 7. cotton
- 8. hydro
- 9. evaporation
- 10. cation
- 11. ferrite
- 12. wax
- 13. basal
- 14. irrigation
- 15. drought
- 16. condensation
- 17. reflex
- 18. dam
- 19. dehydration
- 20. glaciers





## Poetry Page

### *When Water Weeps*

*Drops*

*Falling*

*From my eyes*

*Flow down my face*

*This is how*

*I say*

*I care*

**Objective:** To write a poetic narrative that develops real or imagined experiences or events using descriptive details.

### Materials:

- *Water Runs Through This Book* – ‘Water is Healing’
- Poetry Page (Guide, pg. 10)
- Pencil or pen

### Procedure:

- Read the ‘Water is Healing’ chapter, taking care to review the poem ‘When Water Weeps’ presented there. Count the syllables on each line. Explore the poem’s message and theme.
- Instruct the students to identify which chapter in *Water Runs Through This Book* that they found most inspirational, interesting, and/or intriguing. Encourage students to re-read the chapter a number of times, connecting with the message.
- Tell the students that they will be writing a short poem like the one above about their connection with *Water Runs Through This Book*. Note the line-by-line syllable count used in the poem posted above –
  - Title – 4 syllables
  - Line 1 – 1 syllable
  - Line 2 – 2 syllables
  - Line 3 – 3 syllables
  - Line 4 – 4 syllables
  - Line 5 – 3 syllables
  - Line 6 – 2 syllables
  - Line 7 – 2 syllables
- Instruct students to use the Poetry Page Template as a guide to write their poems.



## Poetry Page Template

*Count the syllables of your phrases.  
Put the correct number syllables on the line labeled with that particular number.*

Title \_\_\_\_\_

1 syllable \_\_\_\_\_

2 syllables \_\_\_\_\_

3 syllables \_\_\_\_\_

4 syllables \_\_\_\_\_

3 syllables \_\_\_\_\_

2 syllables \_\_\_\_\_

2 syllables \_\_\_\_\_



## Next Generation Science Standards Alignment

		Moving Molecules	Sorting Foldable	Crossword Puzzle	Poetry Page
<b>Matter and Energy in Organisms and Ecosystems</b>					
<b>Ecosystems: Interactions, Energy, and Dynamics</b>					
MS-LS2-3	Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.	x	x		
MS-ESS2-1	Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.	x	x		
MS-ESS2-4	Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.	x	x		

## Common Core State Standards Alignment

### English Language Arts Standards » Reading: Informational Text

CCSS.ELA-Literacy.RI.3.3	Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.	x	x	x	
CCSS.ELA-Literacy.RI.3.7	Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).	x	x	x	x
CCSS.ELA-Literacy.RI.3.10	By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2-3 text complexity band independently and proficiently.	x	x	x	x
CCSS.ELA-Literacy.RI.4.3	Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.	x	x		x
CCSS.ELA-Literacy.RI.4.7	Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.	x	x		x
CCSS.ELA-Literacy.RI.4.10	By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range.	x	x	x	x
CCSS.ELA-Literacy.RI.5.2	Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.	x	x		



**English Language Arts Standards » Reading: Informational Text (cont.)**

		Moving Molecules	Sorting Foldable	Crossword Puzzle	Poetry Page
CCSS.ELA-Literacy.RI.5.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a <i>grade 5 topic or subject area</i> .			✘	
CCSS.ELA-Literacy.RI.6.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.			✘	
CCSS.ELA-Literacy.RI.7.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of a specific word choice on meaning and tone.			✘	

**English Language Arts Standards » Writing**

CCSS.ELA-Literacy.W.3.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.				✘
CCSS.ELA-Literacy.W.4.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.				✘
CCSS.ELA-Literacy.W.5.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.				✘

