THEME:	**The Water Cycle**
SCOPE & SEQUENCE UNIT:	**Rain Pathways**
OBJECTIVE:	**The four pathways of rainwater**
ACTIVITY:	**Rain Making**

Notes:	In-class activity
Teacher Prep.:	This activity requires students have a prior understanding of the water cycle.
Time:	30 minutes

Skills:

- Critical & creative thinking
- Ecological literacy
- Writing & oral language

Objectives:

- To kinesthetically make the sound of rain
- To understand the four pathways of rainwater in the water cycle

Background Information:

When it rains, the rain eventually lands on a landscape or a water surface (fresh or marine). Our discussions deal with rain descending on a landscape. Rainwater can take one of four pathways: 1) infiltration (~percolation) into the ground, 2) evaporation into the atmosphere, 3) transpiration from plants, 4) run-off. The pathway taken is dependent on a variety of influences including: air temperature, air moisture (humidity), land surface type (natural or developed, and kind), hardness of land surface, soil moisture, soil temperature and surface temperature. At any one time, the rain may travel all pathways or several or only one – it all depends.

Vocabulary:

Infiltration (~percolation): the downward movement of water through soil
Evaporation: water changing state from a liquid to a gas and releasing heat
Transpiration: water released by plants through the process of photosynthesis (using sunlight, water and carbon dioxide to create carbohydrates for the plant, releasing water and oxygen)

Run-off: the flow of rainwater (or snow melt) over the land (and eventually into creeks, rivers, and lakes, and on to the sea)

Introductory Discussion:

Quickly review the water cycle with students, drawing a diagram (whether by a student or teacher) of the cycle for all to see and serve as reference.

Let's imagine it is raining now. It's only a light rain – everyone snap your fingers. (While everyone is snapping, start a rain narration - tell students to imagine the rain falling on the leaves and needles of the trees and shrubs outside, and gently onto the ground). Now the rain is getting heavier. Everyone slap your thighs. (Continue with the narration of the rain, now harder, falling on the plants and ground and roads).

Now it's pouring – some students can stomp their feet while the others continue slapping their thighs. (Continue with the narration, now the water is running off and the streams are swelling and the water is also running down the roads into the sewers).

Eventually the rain starts to abate – students stop stomping and they snap their fingers while others continue slapping their thighs. Then those students snap their fingers. Then half the class stops making any noise. Then all the class stops and sits quietly for a few moments – the hush after a rain.

Brainstorm with the students where they think rainwater goes and develop a list of the four pathways. (They will likely need help arriving at the four)
1) infiltration (~percolation), 2) evaporation, 3) transpiration, 4) run-off.

FOR GULF ISLANDS ONLY: Present/project the Waterscape Gulf Islands poster/image and discuss rain pathways.

Have students complete the Student Page.

Reflection Discussion:

Brainstorm – Why might it be important to understand where the rainwater goes? What might influence which pathway(s) the rainwater travels?

Student Page:

The Four Pathways of Rain

Resources:

Waterscape Gulf Islands poster.pdf

Name: _____ Date: _____
(mm/dd/yyyy)

The Four Pathways of Rain

Create a drawing showing the four pathways rain can take.