

Teacher Candidate: Kasandra Stoudt Date: 06-08-2016

Cooperating Teacher: _____ Coop. Initials: _____

Group Size: 24 Allotted Time: 45min Grade Level: First Grade

Subject or Topic: Precipitation Section: _____

Standard: 4.2.K.A Identify the components of the water cycle.

I. Performance Objectives (Learning Outcomes):

- A. The students will evaluate the different types of precipitation by discussing their personal knowledge of the topic and watching a video.
- B. The students will discover the process of Saturation by participating in a Runoff/Groundwater inquiry.
- C. The students will engage in this process of the water cycle by participating in an interactive read aloud.

II. Instructional Materials

A. Lesson

1. The Snowflake: A Water Cycle Story by Neil Waldman
2. Water Cycle Chart
3. Precipitation Chart Additions (Types of precipitation, runoff, groundwater)
4. Precipitation Video
(https://www.youtube.com/watch?v=_NUDZSe46xA Start at 1:50
water cycle simulator then 15:50-17:30)
5. Water Cycle Jump
(<https://www.youtube.com/watch?v=evH2r5dOq5Q>)
6. Precipitation matching sheet
7. Ground Water/Runoff/Saturation Venn Diagram
8. Ticket out the door

B. Inquiry

1. Funnels
2. Soil

3. Water
4. Teaspoons
5. Trays
6. Filter Paper Discs
7. Timers
8. Inquiry Recording sheet

III. Subject Matter/Content (prerequisite skills, key vocabulary, big idea, outline of additional content)

A. Prerequisite skills

1. Different types of Precipitation
 1. Rain
 2. Snow
 3. Sleet
 4. Hail
2. Where does water go?
 1. Saturation
 2. Collection
 3. Runoff
 4. Groundwater

B. Key Vocabulary

1. Runoff: water, from rain, snowmelt, or other sources, that flows over the land surface
2. Groundwater: water present beneath Earth's surface in soil pore spaces and in the fractures of rock formations
3. Saturation: the state or process that occurs when no more of something can be absorbed, combined with, or added.
4. Precipitation: water released from clouds in the form of rain, freezing rain, sleet, snow, or hail

C. Big Idea: Process of precipitation and all the forms that it comes in.

D. Content:

1. How precipitation is formed in the cloud, and the forces that act upon the water to make it fall.
2. Where it goes after it has "fallen" to the earth.

3. How precipitation affects the environment
 1. Plant Life
 2. Water Cycle Rotation
 3. Humans

IV. Implementation

- A. Introduction: Review from the day before, play the Water Cycle Jump (<https://www.youtube.com/watch?v=evH2r5dOq5Q>). Introduce The Snowflake by Neil Waldman. Interactive Read aloud. Discuss with students and link to the concepts of precipitation and runoff/groundwater that will be covered.
- B. Development
 1. Break down the word precipitation. Give students the definition of the word and Bring up the Water Cycle chart and ask them to list as many forms of precipitation they can think of. Write the what they come up with on the board.
 2. Discuss the four different types, (Rain, Snow, Sleet, Hail), describe each, give the definitions, and ask the student to relate things that they know about each of the four types.
 3. Give definitions of the four types of precipitation and how it is formed in the cloud. Ask students why they think that precipitation falls to the earth.
 4. Students will fill out a matching sheet connecting each of the four types of precipitation to a picture with the definition. Show the video (https://www.youtube.com/watch?v=_NUDZSe46xA Start at 1:50 *water cycle simulator* then 15:50-17:30) on the process of precipitation, and fill in a guided note sheet.
 5. Ask the students what they have gathered from the video. Talk about the key points from the video that covers why precipitation falls, and review guided note sheet. Go over the process of why precipitation occurs and break it down for the students.
 6. Introduce from the video the concepts of groundwater, saturation, and runoff. Explain the differences and similarities of these, and relate them to this part of the water cycle. Have students fill out

Venn Diagram sheet with the comparisons they came up with as they go along.

7. Introduce inquiry and the safety precautions and directions for it. Discuss with students before inquiry; From where does groundwater come? What causes streams and rivers?
8. Go over the procedures to the inquiry. ("Every 2 students will put a cone of filter paper in a funnel. Place 100 ml (about 1/2 cup) of dry soil in the funnel and tamp the soil gently. Pour 5 ml (about one teaspoon) of water onto the soil every 30 seconds until water appears at the bottom of the funnel. Have students describe what process happens between the water and land to form streams.")
9. Review the recording sheet with the students, and explain how it will be completed as they participate in the inquiry.
10. Discuss questions with students after inquiry; How did you know the soil was saturated? What happened to the water once the soil was saturated? Where does water go after it runs to a stream? Have students hand in recording sheet to be graded. Have the students come back to the reading circle.
11. Discuss with the students where water goes after it has fallen from the sky. (Add the Runoff/Groundwater chart additions)

C. Closure: Have students fill out the ticket out the door and hand it in. Discuss what they have learned that day. Discuss the parts of the water cycle covered, and show the water cycle rap video. Introduce what they'll be doing for the review.

D. Accommodations/Differentiation

1. IEP Student: Benjamin is six years old and lives with a hearing impairment, he has a cochlear implant, but still struggles with singling out distinct voices during full class discussions. Benjamin does use sign language, and has an underdeveloped ability to read lips (He can pick up some easy words but must be watching very closely).
2. Accommodations: Benjamin will have preferential seating at the tables so that he will be able to hear the video. The teacher has a

mic, but will also put the directions for longer projects up on the board so that he has something to refer to. When there is group discussion, the teacher will repeat the information that other students comment on so that Benjamin can be fully included.

3. Differentiation: The students are drawing writing, physically interacting and discussing with the teacher and their peers throughout the lesson.

E. Assessment/Evaluation Plan

1. Formative:

1. Precipitation matching sheet
2. Venn Diagram
3. Ticket out the door
4. Inquiry Recording Sheet

2. Evidence:

1. Precipitation Matching sheet: students will be assessed on their ability to distinguish between the four types of precipitation.
2. Venn Diagram: students will be assessed on their ability to distinguish between Runoff, Groundwater, and Saturation.
3. Ticket out the door: the students will be assessed on their answers to the types of precipitation, where it goes after it hits the earth, and how it is formed.
4. Inquiry Recording Sheet: The students will be assessed on their answers and observations recorded on the sheet.

3. Assessment Scale:

1. Students will be assessed based on the rubrics for the recording sheet, venn diagram, matching activity, and ticket out the door, that will be handed in at the end of the lesson.
2. Recording Sheet: Mastery (4): All 3 pictures included, one idea; Proficiency (3): 2 pictures, and one idea/ 3 pictures, no idea; Basic (2): 1 picture and one idea/ 2 pictures no idea; Below basic (1): either 1 picture or 1 idea.
3. Venn Diagram: Proficiency: 3; Basic: 2; Below basic: 0-1

4. Matching: Mastery: All four matched correctly, Proficiency: three matched correctly; Basic: two matched correctly; Below basic: one/none matched correctly.
 5. Ticket out the door: Mastery: all three parts (runoff, groundwater saturation) matched correctly and types of precipitation correctly labeled; Proficiency: at least two parts matched correctly and at least 3 labeled correctly; Basic: at least 1 part correctly matched and at least two labeled correctly; Below basic: None matched correctly and one/none labeled correctly.
4. Summative: Final summative test at the end of the unit.

V. Reflective Response

- A. Report of Student Performance in Terms of Stated Objectives (Reflection on student performance written after lesson is taught, includes remediation for students who fail to meet acceptable level of achievement)
 1. Remediation Plan
- B. Personal Reflection (Questions written before lesson is taught. Reflective answers to question recorded after lesson is taught)
 1. Were the students engaged and participating throughout the lesson? How can I make the lesson more engaging to all of the students?
 2. Was my lesson effective in teaching the content? How can I make it more effective?
 3. Was my teaching effective? How could I have taught more effectively?

VI. Resources (in APA format)

- A. Waldman, N. (2003). *The Snowflake: A Water Cycle Story*. Brookfield, CT: The Millbrook Press.
- B. http://www-k12.atmos.washington.edu/k12/pilot/water_cycle/teacherpage.html
- C. https://www.youtube.com/watch?v=_NUDZSe46xA (Bill Nye)
- D. <http://lessonplanspage.com/scienceowatercycle5precipitation4-htm/>

- E. <http://www.lessonpaths.com/learn/i/science-25/fun-in-first-grade-precipitation>
- F. <https://www.youtube.com/watch?v=evH2r5dOq5Q> (Water Cycle Jump)