

# Unit Plan: Water and Weather

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| First and Last Name  | Caitlin Jeffas                                   |
| School District  | Clifton Public Schools                           |
| School Name  | School 17  |
| School City, State   | Clifton, New Jersey                              |
| <b>Unit Title</b>  |  |
| Water and Weather  |  |
| <b>Unit Summary</b>  |  |
| <p>This unit builds on students' prior knowledge of water and weather. Students will investigate:</p> <ul style="list-style-type: none"><li>• how the sun's energy impacts the water cycle and the effect of heat energy on the melting, evaporation, condensation and freezing of water.</li><li>• that water can be found in many places on earth.</li><li>• different cloud types and weather tools such as a thermometer, barometer, wind vane and water gauge will be explored.</li><li>• how weather can be measured including rainfall, air temperature, and wind.</li></ul> <p>Students will expand their knowledge through class discussions, cooperative learning groups, hands-on activities, and a culminating project which requires students to apply their knowledge of water, weather, and the water cycle to collect and record data about the weather.</p> |  |
| <b>Subject Area</b>  |  |
| Science  |  |
| <b>Grade Level</b>   |  |
| 3rd Grade  |  |
| <b>Approximate Time Needed</b>   |  |
| 4 weeks (40 minute class periods, 5 days a week)   |  |
| <b>Targeted Content Standards and Benchmarks</b>   |  |
| 3-ESS2-1, 3-ESS2-2, RI.3.1, W.3.8, MP.5, 3.MD.A.2, 3.MD.B.3  |  |
| <b>Student Objectives/Learning Outcomes</b>  |  |
| <p>Students will be able to:</p> <ol style="list-style-type: none"><li>1. Explain why water is essential for living things.</li><li>2. Describe the processes involved in the water cycle.</li><li>3. Define and explain weather and the types of severe weather conditions.</li><li>4. Determine how to measure specific weather conditions.</li><li>5. Compare changes on weather over a period of time.</li><li>6. Record data and create an effective way of displaying data.</li></ol>  |  |
| <b>Curriculum-Framing Questions</b>  |  |
| <b>Essential Question</b>  | How does energy from the sun affect the weather? |

**Unit Questions**

What is the water cycle?  
 What is weather?  
 How can we measure weather?  
 How do changes in the weather affect the water cycle?

**Content Questions**

What types of water can be found on earth?  
 What are the three forms of water?  
 How does water change from one state of matter into another?  
 What are the four stages in the water cycle?  
 What instruments can be used to measure weather?  
 What types of severe weather can occur on earth?  
 How can you record and share your data about measuring weather?  
 How did the weather change over the four week period?

**Assessment Timeline**

| Before project work begins   | Students work on projects and complete tasks   | After project work is completed  |
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| <ul style="list-style-type: none"> <li>• KWL Chart</li> <li>• Think, Pair, Share</li> <li>• Introduction to water cycle, weather, and measuring weather</li> <li>• Introduce projects and rubrics</li> <li>• Research water cycle</li> <li>• Research weather in different areas of the world</li> </ul> | <ul style="list-style-type: none"> <li>• KWL Chart</li> <li>• Unit Lesson Quizzes</li> <li>• Weekly homework assignments</li> <li>• Use chromebooks daily to work on projects</li> <li>• Allow ten minutes daily for students to record weather.</li> <li>• Class discussions</li> </ul> | <ul style="list-style-type: none"> <li>• KWL Chart</li> <li>• Unit Test</li> <li>• Project Rubrics</li> <li>• Class Discussion</li> <li>• Group Presentations</li> <li>• Homework Assignments</li> </ul> |

**Assessment Summary**

Students will be assessed in the following ways:

- Quizzes (Lesson 1, 2, and 3)
- Unit 7 Test
- Homework assignments
- Class discussions
- Project 1 Student Water Cycle Powerpoint
- Project 2: Weather Brochure
- Project 3: Measuring Weather Newsletter
- Cooperative Learning Group Discussions

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| <b>Prerequisite Skills</b>  |   |
| Students should have basic knowledge of water and weather, how to measure using a thermometer and ruler, and basic understanding of computer use.   |   |
| <b>Instructional Procedures</b>   |   |
| This unit will take place over a four week time span.   |   |
| Week 1: Lesson 1 The Water Cycle  |   |
| Week 2: Lesson 2 Weather  |   |
| Week 3: Lesson 3 Measuring Weather  |   |
| Week 4: Wrap-up measuring weather project and Unit Assessment   |   |
| Throughout the weeks, class activities and learning discussion groups will be completed throughout the lessons in the unit. Students will be completing projects weekly and moving onto the next lessons. |   |
| <b>Accommodations for Differentiated Instruction</b>  |   |
| <b>Special Needs Students</b>   | <ul style="list-style-type: none"> <li>• Extended time</li> <li>• Partnered with a stronger student</li> <li>• Provide hints (where to find information)</li> <li>• Provide completed examples of each type of Math problem</li> <li>• Provide a checklist of tasks</li> </ul>  |
| <b>Nonnative Speakers</b>   | <ul style="list-style-type: none"> <li>• Provide vocabulary and picture cards</li> <li>• Provide visual aids and examples</li> <li>• Partner with a bilingual student</li> <li>• Extended Time</li> </ul>   |
| <b>Gifted/Talented Students</b>   | <ul style="list-style-type: none"> <li>• Allow students choice to work alone on projects</li> <li>• Create a song or rap explaining the water cycle</li> <li>• Compare the weather they measured with another part of the world.</li> <li>• Create questions about weather or the water cycle to share with their group.</li> </ul> |
| <b>Technology – Hardware</b> (Click boxes of all equipment needed)  |   |

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|--|---|--|
| <input type="checkbox"/> Camera                                    | <input type="checkbox"/> Laser Disk       | <input type="checkbox"/> VCR                       |
| x Computer(s)  | x Printer                                 | <input type="checkbox"/> Video Camera              |
| <input type="checkbox"/> Digital Camera                            | x Projection System                       | <input type="checkbox"/> Video Conferencing Equip. |
| <input type="checkbox"/> DVD Player                                | <input type="checkbox"/> Scanner          | <input type="checkbox"/> Other                     |
| x Internet Connection  | <input type="checkbox"/> Television       |  |
| <b>Technology – Software</b> (Click boxes of all software needed.) |   |  |
| x Database/Spreadsheet   | <input type="checkbox"/> Image Processing | <input type="checkbox"/> Web Page Development      |
| <input type="checkbox"/> Desktop Publishing                        | x Internet Web Browser                    | x Word Processing                                  |
| <input type="checkbox"/> E-mail Software                           | x Multimedia                              | <input type="checkbox"/> Other                     |
| <input type="checkbox"/> Encyclopedia on CD-ROM                    |   |  |

**Printed Materials** Science Fusion Grade 3 Textbook

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|---------------------------|---|
| <b>Supplies</b>           | <ul style="list-style-type: none"><li>● Science Fusion Grade 3 textbook</li><li>● computers with internet access</li><li>● Microsoft Office</li><li>● plates</li><li>● bathroom paper cups</li><li>● pencils</li><li>● construction paper</li><li>● clipboards</li><li>● container to measure rain</li><li>● computers (1 for each group)</li></ul>   |
| <b>Internet Resources</b> | <p><a href="http://www.thinkcentral.com">www.thinkcentral.com</a> (Curriculum Science Series)</p> <p><a href="http://www.kidzone.ws/water/">http://www.kidzone.ws/water/</a></p> <p><a href="https://www.youtube.com/watch?v=y5gFI3pMvol">https://www.youtube.com/watch?v=y5gFI3pMvol</a></p> <p><a href="https://www.youtube.com/watch?v=TWb4KIM2vts">https://www.youtube.com/watch?v=TWb4KIM2vts</a></p> <p><a href="https://water.usgs.gov/edu/watercycle-kids-adv.html">https://water.usgs.gov/edu/watercycle-kids-adv.html</a></p> <p><a href="https://www.natgeokids.com/uk/discover/science/nature/water-cycle/">https://www.natgeokids.com/uk/discover/science/nature/water-cycle/</a></p> <p><a href="http://www.sciencekids.co.nz/sciencefacts/weather/wind.html">http://www.sciencekids.co.nz/sciencefacts/weather/wind.html</a></p> |
| <b>Other Resources</b>    |   |