During the early 19th century, an English painter named J.M.W. Turner was fascinated by the power of nature and humanity's effort to understand and tame it through innovation. Turner sought to create expressive portrayals of nature while learning about and applying new scientific understandings of the natural world. As Turner traveled throughout Europe, he captured mountain and sea, war and society in his plein air watercolors. One scientist who inspired Turner in his travels was a man named Luke Howard. Howard, a chemist and amateur meteorologist, was the first to classify what he identified at the time as three primary types of clouds during a public lecture given in 1802. Turner, who attended this famous talk by Howard, began to observe and respond to his own painting in a new way as he continued to educate himself through friendships with chemists, physicists, and other science professionals of his day.
Suggested reading
For kids:  
*The Cloud Book*, a picture book by Tomie dePaola

*Who is J.M.W. Turner*, an online guide by Tate: tate.org.uk/kids/explore/who-is/who-jmw-turner

For teens and up:  

Suggested viewing
*The Cloud Book* (read aloud in a video posted by East Harlem Scholars Academy II Kindergarten): youtube.com/watch?v=nVeO6U-Nl4w

*Painting En Plein Air* (an ArtQuest video, activity, lesson plan, and list of resources): fristkids.org/activities-videos#5898

*The Genius of Turner: Painting the Industrial Revolution* (a sixty-minute film directed by Clare Beavan and produced by the BBC): youtu.be/QEL3w9r5WOc

*5 Things to Know about Turner* (a short film by Tate Britain): tate.org.uk/whats-on/tate-britain/display/turner-collection/introduction-to-turner
Objective
In this activity, participants will practice documenting the weather both scientifically and artistically for seven days, and then create a watercolor painting based on one of their sketches.

Materials
• NASA Cloud Chart (available in English at science-edu.larc.nasa.gov/cloud_chart/PDFs/NOAA-NASA-CloudChart.pdf and Spanish at science-edu.larc.nasa.gov/cloud_chart/PDFs/Cloudchart_ESP.pdf)
• Two 11 x 17 in. reproductions of Turner paintings
• Pencils
• FAM’s Turner weather worksheet packet:
  • 7 copies of the weather worksheet
  • a thermometer, a rain gauge, and an anemometer, or a weather-station instrument that contains all three of these tools
• Watercolor supplies: paper, brushes, paint, and water cups

Steps
1: Hand out the NASA Cloud Chart and display the Turner reproductions. Discuss with participants the different types of clouds. Ask them to identify clouds both in the area (by looking through a window or going outside) and in Turner’s paintings.

2: Encourage participants to talk about which clouds Turner chose to paint and how his depictions are similar or different to those on the chart.

3: Distribute a weather worksheet packet and pencil to each participant. Guide participants through the worksheet directions for Day 1.

4: Continue the observation exercise for six more days. If your group does not meet that often, participants may take their packets with them and do their observations on their own. Encourage them to think about how they are deciding what to sketch, and what Turner might have been thinking when choosing what to paint.

5: On Day 8, ask participants to pick one sketch to turn into a painting.

6: Provide watercolor supplies to the participants for creating their artwork.