The aurora is a spectacular, visual experience for every human that has watched it. Although scientists want to study it to learn about its secrets, other observers prefer to simply experience the phenomenon for its beauty and awesome mystery. Here is a vivid description of an aurora observed on August 28, 1859 by Captain Stanard from Cleveland, Ohio.

"At 9:00 PM, a belt began to rise up in the north, and as the convex edge attained a height of about 40 degrees above the horizon, it began to shoot out long, attenuated bright rays close together, moving slowly to the west and reaching to the zenith. Near the convex edge they were of a bright yellow, changing as they shot up to orange, and near the zenith to a bright red, the middle and lower ends remaining yellow and orange. As the fiery points of the rays shot into the broad belt overhead, which had still remained like a belt of luminous fog, the whole thing was changed in an instant into bright red color. The color deepening as it neared the eastern horizon, to a bright crimson, and at the western end near the star Arcturus, into a bright scarlet, gradually growing fainter in the zenith, and increasing in brightness nearer the horizon. After 15 minutes it resolved itself into converging rays that came from the zenith."

" At 9:45 PM, a double arch formed from two narrow ribbons of light 15 degrees wide running from Canes Venatici to the southern edge of Perseus. The bright star Capella shining through the narrow black space between them. Ten minutes later, bright rays suddenly shot up in quick successive flashes from the lower through the upper arch, reaching nearly to the zenith, and moving slowly to the west until they reached the constellation Corona Borealis, lighting up the northwestern sky with yellow, orange and red. There commenced a sudden flashing of horizontal wavy bands from the upper arch towards the zenith."

From the information in this description, try to recreate what Mr. Stanard saw for one particular moment as he watched the aurora dance across the sky. Use colored pencils, crayons, watercolors or other media to render a view of the aurora based on this description.

## Extra Credit Problem

Use the following space for your rendering:

