

## Causes of whirlwinds blowing in campus

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We measured the temperatures at the two spots in our school campus where whirlwinds were likely to occur; one was the air temperature measured just on the ground, while the other was the one measured about 10 meters above the ground level. We found that there was little difference between the temperatures when whirlwinds occurred. In another experiment, we also found that there was little difference between the temperature measured in the upper level of the water in a beaker and the one measured in the lower level when a swirl was seen in the water. Therefore, we concluded that differences in air temperatures between two levels do not cause whirlwinds.

In addition, we succeeded in visualizing whirlwind model in the water using color-coded media. The water mixed with color-coded media was thought to have almost the same fluidity as the whirling air. First, we put a wall vertically in the water in a beaker. Second, we put color-coded media in the water and turned the stirring bar by using the stirrer. Then, we confirmed that two types of swirls were created: one type was dropping from the top of the water and the other was rising from the bottom up along the wall. Of these two swirls, we focused on the latter type of ascending swirl and continued to study because it resembled a whirlwind.

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