

MCEN 4151-001

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IV 3 Report

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The picture shows the smoke of a flame from burning oil perfume. The photo intends to study the smoke of burning oil perfume. It is interesting to see the thickness of the smoke in the picture.

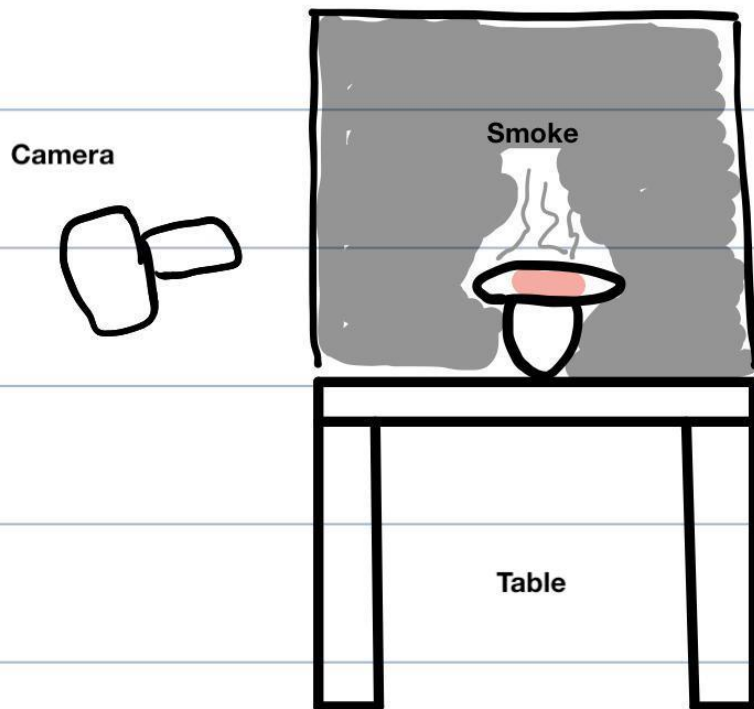


Fig.1 sketch for the setup

The setup of the picture was a serenity candle on the table, and oil perfume on the top of it. For the background, I used a black flag, and on the left side of the table, there was a desk lamp with 60W. The picture was taken with an 18-105mm Nikon lens. I used an auto-focus on the camera. The photo has been edited by lightroom. The editing was only to make the picture darker, so the details can be clear in the

picture. The size of the field of view was about 2ft wide and 1.5ft high. The original picture dimension is 5184x3456, and the setting was ISO

We get laminar smoke at the first few centimeters, then it turns into turbulent flow. I could not find an equation to describe that, but figure 2 will explain the difference between laminar flow and turbulent flow.

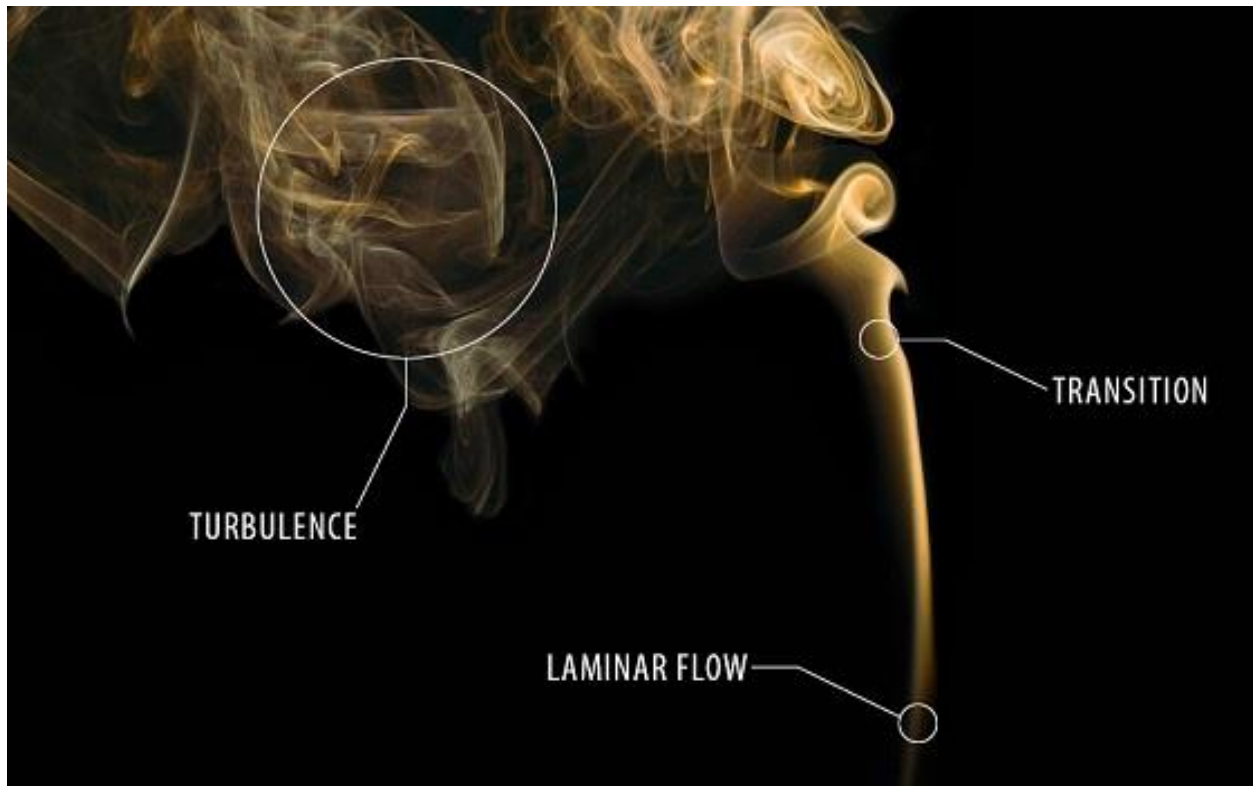


Figure 2. The difference between laminar and turbulent flow [1]

In figure 2, it shows how the smoke starts to behave like laminar flow, transition, and end up in turbulence flow phase. This what happened with me in figure 3.

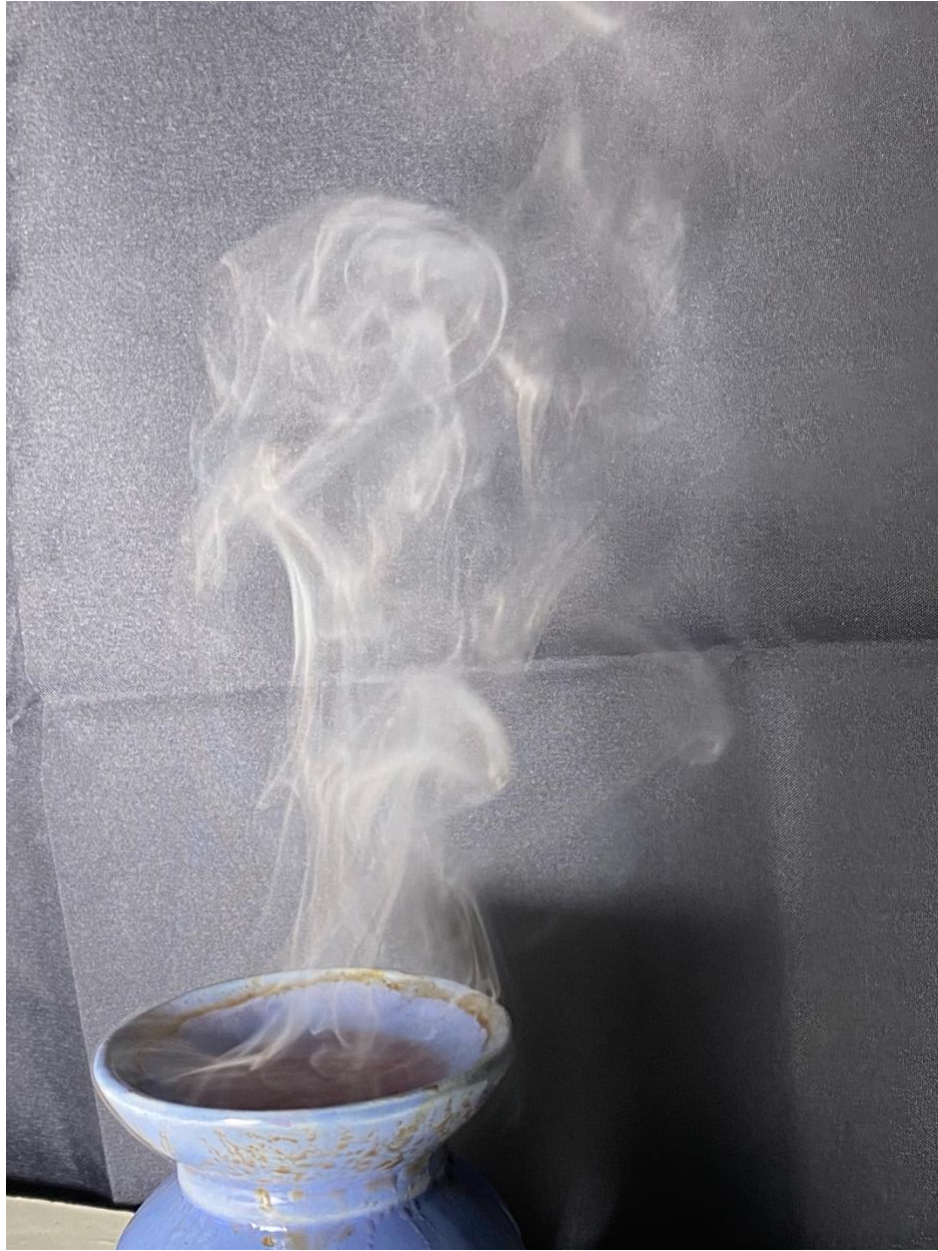


Fig.3 The image before editing



Fig.4 The image after editing

I like the result of this photo. I like the details in this photo and how the boundaries of the smoke is clear. Although it is a sample idea, it is good to study something we almost use every day to get a nice small in our places. I think changing the light source into darker will be helpful. Also, trying to have a small light source will be useful. What I could do differently is try a different kind of fuel to see if it is different or not.

Reference:

[1] Overmeen, A. (2020). What is the difference between laminar flow and turbulent flow? <https://www.bronkhorst.com/int/blog-1/what-is-the-difference-between-laminar-flow-and-turbulent-flow/>

[2] Hosch, W. (N/A). laminar flow. Britannica. <https://www.britannica.com/science/laminar-flow>