

Low-cost demonstration kit for the blood-color lunar eclipse formation

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The red or blood-color Moon is the one characteristic of Lunar eclipse phenomena. This rare event occurs when the moon orbits into the Earth's shadow. In fact, the dust, ashes or gas in Earth's atmosphere scatter the short wavelength of sunlight (blueish light). But they allow the longer wavelength (reddish light) travel through the atmosphere to space and reflect the Lunar surface back. Thus, the observers on Earth see the Moon turns red or dark red. The Physics books and previous articles usually describe how the Moon turns red by using diagrams. In this article, we design the demonstration kit that does not show only umbra and penumbra of the Earth's shadow. The kit can be demonstrated how short wavelength light scatters by manipulating a basic material (e.g., ground coffee beans) as dust or ashes in Earth's atmosphere.

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