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Building a wind tunnel to study the silk floss diaspore AMAN DESAI, ISAAC CUI, OLIVER DEWEY, SIDDHANT JAIN, DWIGHT WHITAKER, Pomona College — The silk floss tree (*Ceiba speciosa*) is native to semi-deciduous forests in South America. Its diaspore consists of a hard, ellipsoid seed surrounded by a cotton-like spheroid called the kapok. We will discuss our measurements of the diaspore's terminal velocity, which showed that the diaspore induces substantially higher drag than a solid sphere. We built a wind tunnel to visualize the airflow around the diaspore and study the cause of this drag. We will discuss the design choices that allowed us to decrease turbulence due to small-scale eddies and produce better images of the airflow. We will explore the possible results we may observe from our airflow visualization experiments by discussing results from the airflow visualization around dandelion seeds[1]. Finally, we will explain how these results will inform further study of the drag induced by the silk floss diaspore.

[1]Cummins, C. et al. (Oct. 2018). "A separated vortex ring underlies the flight of the dandelion". In: *Nature* 562, pp. 414–418. doi: https://doi.org/10.1038/ s41586-018-0604-2.

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