



**Chesapeake Section of the  
American Association of Physics Teachers  
Fall 2021 Virtual Meeting**

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## **A Real World Example of Invisibility**

*Saturday, October 23, 2021 3:30 PM (5 minutes)*

When we place Pyrex glass in a large container filled with water, we are able to observe the piece of Pyrex glass submerged within the container, as we would expect. However, when we repeat the process using vegetable oil, instead of water, the piece of Pyrex glass seems to disappear within the vegetable oil. This is because Pyrex glass and vegetable oil have the same index of refraction. By Snell's Law, the light incident upon the Pyrex glass leaves the medium at the same angle that it enters. In other words, the light is neither reflected nor refracted, thus we have no way of observing the Pyrex glass. This demonstration can be used to aid in students' understanding about certain concepts in optics, like refraction, Snell's Law, and the nature of light.

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**Session Classification:** Demo Share-a-thon