

## Disappearing Glass

This activity was created by Brenna.

Let's do an at home experiment and make a dish become invisible!

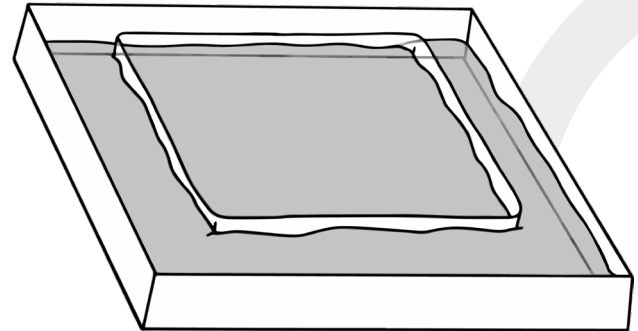
### MATERIALS

- A Pyrex glass dish, or a similar clear and oven safe glass dish
- A larger container that the glass dish will fit inside
- Vegetable / canola oil (Some brands will work better than others! 100% canola oil works well)

1 Fill the large container with vegetable oil until it is about 1 inch deep

2 Set the glass dish in the oil. Take notice of what the glass dish in the oil looks like

3 Pour vegetable oil into the dish to fill it up and watch it disappear!



### EXPLANATION

**REFRACTION** is when light changes direction as it moves from one medium to another. This happens because light waves change speed as they enter a new medium, and the light will bend if it enters the new medium at an angle.

An **INDEX OF REFRACTION** is a numerical value of how a particular medium affects light. Each unique medium has an index of refraction. The higher the value, the more the substance will slow down light. As light moves from one substance to another, a larger change in the indexes of refraction will make the light bend more.

The reason we can normally see clear and colourless objects like glass or water is because of how they refract and interact with the light that hits them; we don't see any colour, but we can see that the light is distorted where the object is. But the reason this experiment works is because glass and vegetable oil happen to have very similar indexes of refraction. When the glass is surrounded with oil, it acts the same as its surroundings and the light does not bend as it enters and exits the glass. Because the light is passing straight through the clear glass dish, we can't see it!

