Calculate the refractive index of Jello

How much the light bends in a material depends on the material's atomic properties, and we call this the **refractive index** of the material. Air has a refractive index of 1 and water has a refractive index of 1.33.

Predict: **Do you think Jello will have a refractive index closer to air or closer to water?** (circle answer)

<div align="center">

Closer to air   or   **Closer to water**

(1)   (1.33)

</div>

Place paper under your jello (so you can make marks).

Measure the angle of the light. Draw a line perpendicular to the face of the jello (dotted line in picture). Measure the angle of the light inside and outside the jello compared to this line (θ_1 and θ_2 in picture).

Suggestions: To help you see where the light travels in the air, you can hold up a piece of paper as a target.
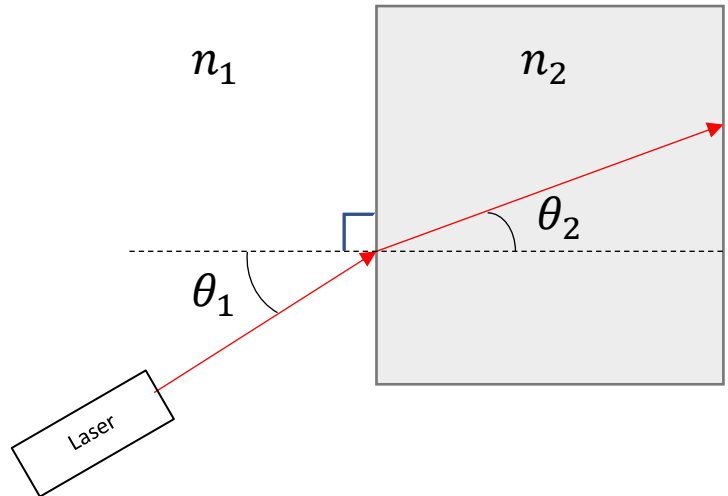
$\theta_1 =$

$\theta_2 =$

Use **Snell's Law** to relate the angles and refractive index.
$$n_1 \sin \theta_1 = n_2 \sin \theta_2$$
(n stands for the refractive index and θ stands for the angle)

What is material 1 in our case? _____

Refractive index of material 1: $n_1 =$
(Hint: read paragraph about refractive index above)

Now solve for n_2 (the refractive index of the jello) using Snell's Law.

$n_2 =$