**Worksheet 7 Investigating refraction**

*In this lab you will investigate the phenomenon of ‘refraction’. On your desk you will have a tub of cloudy water and a laser pointer.*

1. Consider that light from the laser pointer is directed towards the surface of the water, as in the diagram below. What happens to the path of light after it hits the surface of the water? Draw what you observe.

**Water**

**Laser**

Does all of the laser light pass into the water? Explain.

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2. Suppose that you change the angle at which light from the laser hits the surface of the water. Draw what you observe in this case.

**Laser**

**Water**

3. The laser is aimed at right angles to the surface of the water. Draw what you observe in this case.

**Water**

**Laser**

4. How would you summarise your observations? Can you be specific about the change in direction that occurs when light passes from air into water?

5. Position the laser so that the beam passes through the water into air. Experiment with the angle that the laser hits the surface of the water. Summarise your observations below. Can you be specific about the change in direction that occurs when light passes from water into air?