Bending Light Lab

(Outline)

Purpose: **Collect evidence of how light waves are refracted and reflected.**

Hypothesis (Reflection)

If an image strikes a mirror at ____ degrees, the image will be reflected at ___ degrees. (See page 385)

Hypothesis (Refraction)

If an image is refracted it will appear _____ (list 3 possible changes)

Materials / Procedure / Results: Refer to RMS Lab Format

1. **Reflection**
    a. **Use the mirror, pencil, and protractor to test the first hypothesis. Basically, you are recreating the situation shown in Figure 2, page 385 and collecting data to verify the Law of Reflection. Record 5 data sets and graph the results.**
    b. **Record additional information about the reflected image**
        i. **Inverted. Right side up**
        ii. **Size compared to actual object**
        iii. **Color / intensity**
2. **Refraction**
    a. **Arrow card (pointed right)**
        i. **How does the arrow appear**
            1. **Without any interference (no beaker)**
            2. **As viewed with the empty beaker between your eyes and the card**
            3. **As viewed with the water-filled beaker between your eyes and the card**
    b. **Pencil in beaker with water (800 ml of water in 1000 ml beaker, 450 ml in the 600 ml beaker)**
        i. **Pencil straight up and down – as viewed from water level**
            1. **Centered**
            2. **Far right**
            3. **Far left**
        ii. **Pencil at an angle**
            1. **As viewed from directly above**
            2. **As viewed from above water level (several perspectives)**
            3. **As viewed from water level (several perspectives)**
            4. **As viewed from below water level (several perspectives)**

Analysis: Refer to RMS Lab Format

Conclusion: Refer to RMS Lab Format