(d) **Circuit Modification**

- Correct answer: **Add another battery.**
    - Explanation: Adding another battery increases the voltage, making the bulb brighter.

Page 36: James' Experiments

(a) **Reflection Table**

- The angle of reflection that was not measured accurately: **65°**.
    - Explanation: It does not match the corresponding angle of incidence (60°) according to the law of reflection.

(b) **Refraction Diagram**

- Draw the refracted ray bending toward the normal as it enters the glass and away from the normal as it exits.

Page 37: Refraction Graph

(i) **Angle of incidence when refraction is 20°:**

- From the graph: **30°**.

(ii) **Conclusion from the graph:**

- When light passes from air into glass, the angle of incidence is always **greater than** the angle of refraction.

(iii) **Complete the refracted ray on diagram 2:**

- Extend the refracted ray in a straight line as it exits the glass block.

Page 38: Fish Tank Reflection

(a) **Reflection Diagram**

- Draw a ray of light traveling from the snail to the surface of the water, reflecting at an angle, and then reaching the fish's eye.
- Ensure arrows show the direction of light.

Page 39: Refraction from Snail to Andrew

(i) **Refraction Diagram**

- Draw a ray of light traveling from the snail to the surface of the water, bending away from the normal as it passes into the air, and reaching Andrew's eye.

(ii) **Name of effect:**

- **Refraction**

Page 40: George's Reflection

(a) **Reflection Diagram**

- Draw a ray of light traveling from the lamp to the laptop screen, reflecting toward George's eyes.

(b) **Effect of tilting the screen forward:**

- The reflected ray moves downward, allowing George to see the screen more clearly.

Page 42: Refraction in Glass Block

(a) **Name of effect:**

- **Refraction**

(b) **Path of Ray C:**

- Draw Ray C bending toward the normal as it enters the block and away from the normal as it exits.

Page 43: Underwater Rays

(c) **Path of Rays D and F:**

- Continue Ray D straight upward after exiting the water.
- Ray F bends away from the normal as it leaves the water and enters the air.