Lab of Shadows

Welcome to **Lab of Shadows**, a horror science teaching game where you explore the eerie Hawthorne Laboratory and solve chemical puzzles to progress through each level.

Backstory 📖

In **Lab of Shadows**, you find yourself trapped in the Hawthorne Laboratory, a once-renowned research facility now shrouded in darkness and mystery. As you navigate through the looping hallways, you must use your knowledge of chemistry to synthesize various compounds and unlock doors to escape. Each level presents unique challenges and reactions that test your scientific skills.

To start the game, proceed to the elevator.

Controls 🎮

- **W/A/S/D**: Move forward/left/back/right
- **Mouse**: Look around
- **F**: Interact with objects
- **E**: Open Inventory
- **B**: Toggle Flashlight

Installation ⬇

1. **Download the Game**:
    - Download the installer file from the link
2. **Run the Installer**:
    - Choosing the appropriate options and download the app.
3. **Run the Game**

Download Links 👉

1. CDN link: link 🔗
2. Google Drive link: link 🔗
3. OneDrive link: link 🔗

Common Issues:

1. Windows Defender blocking game to launch:
    - Click `More Info` > `Run Anyway`

Scientific Concept 🧪

"Lab of Shadows" incorporates several fundamental chemistry reactions, providing an educational experience alongside the horror gameplay. Below are a few key reactions and their explanations:

Ester Synthesis

- **Reaction**: Acetic acid (CH_3COOH) reacts with ethanol (C_2H_5OH) to produce ethyl acetate ($CH_3COOC_2H_5$) and water (H_2O).
- **Concept**: Esterification involves forming an ester from an acid and an alcohol. A catalyst, such as sulfuric acid, is used to speed up the reaction.

Methanol Oxidation

- **Reaction**: Methanol (CH_3OH) is oxidized to produce formaldehyde (CH_2O) and water (H_2O).
- **Concept**: Oxidation involves the conversion of methanol into formaldehyde by removing hydrogen atoms. An oxidizing agent facilitates this process.

Ester Hydrolysis

- **Reaction**: Ethyl acetate ($CH_3COOC_2H_5$) reacts with water (H_2O) in the presence of hydrochloric acid (HCl) to produce ethanol (CH_3CH_2OH) and acetic acid (CH_3COOH).
- **Concept**: Hydrolysis is the reverse of esterification, where an ester is broken down into an alcohol and an acid. Hydrochloric acid serves as a catalyst, creating an acidic environment for the reaction.

These scientific concepts are seamlessly integrated into the gameplay, challenging players to apply their knowledge of chemistry to progress through the game. By synthesizing and analysing various compounds, players engage with real-world chemical processes in an interactive and engaging manner.