ARLABS HELPER BOT GUIDE

1. User Journey Breakdown

Step 1: Launching the App

- **User Action**: Opens the AR Labs app.
- **Possible Issues**:
  - App crashes on launch.
  - Stuck on the loading screen.
- **Bot Response**:
  - If crash: Ask the user to check if their **device meets the system requirements** (Android API 24+, Vulkan disabled).
  - If stuck: Suggest **clearing cache & restarting**.

Step 2: Browsing Experiments

- **User Action**: Selects an experiment from the subject list.
- **Possible Issues**:
  - Experiment list doesn't load.
  - Experiment crashes when selected.
- **Bot Response**:
  - If list doesn't load: Check **internet connection** & API response.
  - If crash: Report logs and suggest restarting.

Step 3: Entering AR Mode

- **User Action**: Opens the experiment in AR mode.
- **Possible Issues**:
  - Camera doesn't start.
  - Experiment doesn't load in AR.
- **Bot Response**:
  - Ensure **camera permissions are enabled**.
  - Check **device compatibility with ARCore**.

Step 4: Interacting with Apparatus

- **User Action**: Places apparatus on the table.
- **Possible Issues**:
  - Apparatus doesn't appear.
  - Apparatus is misaligned.
- **Bot Response**:
  - Ask the user to **recalibrate the camera** and **orient the device properly**.

Step 5: AI Assistant Queries

- **User Action**: Asks AI for help.
- **Possible Issues**:
  - AI doesn’t respond.
  - AI gives incorrect answers.
- **Bot Response**:
  - Check **internet connection**.
  - There might me problem with the server at the moment.

Step 6: Modifying Experiment Properties

- **User Action**: Uses sliders, buttons, toggles.
- **Possible Issues**:
  - UI elements don’t respond.
- **Bot Response**:
  - Refresh the experiment and try again

OTHER TROUBLESHOOT PROBLEMS AND FAQ’s.

AR Tracking Issues

Problem: AI misinterprets commands

Solution: Be specific with apparatus names and actions, use simpler sentences

Problem: Objects floating or unstable positioning

Solution: Move to a well-lit area with distinct surface features

Problem: Response delay

Solution: Check internet connection, wait for processing indicator to complete

Problem: Surface not detected

Solution: Try a different surface with non-reflective, non-transparent properties

Problem: Objects disappearing when moving device

Solution: Move camera more slowly and maintain visible tracking markers

Problem: Objects drift during experiments

Solution: Ensure adequate lighting, avoid reflective or patterned surfaces, and maintain sufficient visual features in the camera view for tracking

Problem: AI doesn't recognize commands

Solution: Speak clearly, reduce background noise, try alternative phrasing

Q: What kinds of questions can I ask the AI Lab Assistant?

A: As shown in the interface, "AI Lab Assistant can help you with any questions, visualize concepts and perform actions for you." You can ask about experiment procedures, scientific concepts, troubleshooting, or request specific actions like toggling visualizations.

Q: How do I view experiment notes?

A: Tap the "Notes" button in the bottom toolbar. This will display step-by-step instructions for the current experiment with detailed procedures.

Problem: The AI assistant doesn't understand my language.

Solution: Use the standard language words and avoid using regional accent.

Problem: App crashes immediately after i start setting up the experiment.

Solution: Verify your device meets minimum specifications, restart device, and reinstall if necessary.

Q: How do I adjust the rheostat?

A: Select the rheostat by tapping on it, then look for slider controls or adjustment points that appear. You can drag these to increase or decrease resistance in the circuit.

Problem: Device overheating during extended use

Solution: Take regular breaks, remove any case that might trap heat, reduce screen brightness, and close other applications. Allow your device to cool before resuming

Problem: Readings fluctuate unexpectedly

Solution: Check if any environmental factors (like bright light on sensors) are affecting readings. Use the "Stabilize Readings" option for more consistent values

Problem: Can't complete specific experiment steps

Solution: Consult the detailed procedure notes, or ask the AI assistant for guidance on the specific step

Problem: Experiment results differ significantly from expected outcomes

Solution: Verify all parameters are set correctly, ensure apparatus is properly positioned, and check the calibration settings for the specific experiment

FAQ

General Questions

Q: Can AR Labs replace actual laboratory experience?

A: AR Labs is designed as a supplement to traditional lab experience or as an alternative where lab facilities are unavailable. While it accurately simulates many aspects of experiments, hands-on physical lab work offers additional benefits when available.

Q: Does AR Labs cover the complete Class 11 & 12 science curriculum?

A: We continuously expand our experiment library. Currently, we focus on key experiments from Physics, Chemistry, and Biology curricula that align with standard educational requirements.

Q: Can I use AR Labs offline?

A: Basic experiment functionality works offline, but the AI Lab Assistant requires an internet connection for voice processing and intelligent responses.

Q: What languages does the AI Assistant support?

A: The AI Assistant currently supports multiple languages including English, Hindi, and several regional languages. Language options can be selected in the settings menu.

Q: How accurate are the experiment simulations?

A: Our simulations are built on scientific models that accurately represent real-world physical, chemical, and biological principles. While simplified for educational purposes, they maintain scientific accuracy for the core concepts.

Q: Why do some readings vary slightly from textbook values?

A: Like real-world experiments, our simulations include natural variability and measurement uncertainty sometimes to provide a realistic experience.

Q: How often is new content added to AR Labs?

A: We release new experiments occasionally. All updates are free for subscribers.

Q: How can I provide feedback or report issues?

A: Use the feedback form in the settings menu or email us directly at <email_Address>

Q: Will AR Labs work on iOS devices?

A: An iOS version is currently in development.

Q: Can I use AR Labs on tablets or larger devices?

A: Yes, AR Labs is optimized for both phones and tablets. Larger screens provide more detailed visualizations, though mobility may be slightly reduced.

Q: My camera permission was accidentally denied. How do I fix this?

A: Go to your device settings, find AR Labs in the applications list, select "Permissions," and enable camera access. You may need to restart the app afterward