

Cloud chambers

Objectives:

By the end of this lesson, students should be able to

- Describe how a cloud chamber works
- Describe the origin of these particle tracks
- Describe the tracks made by different particles

Equipment:

- A fish tank with felt glued to the bottom
- A plastic tray
- A black metal plate
- A flashlight
- Dry ice (Central Market, Kroger)
- 90% Isopropyl alcohol (Pharmacy)
- (optional) uranium glass beads

Activities:

- Put dry ice in the tray. Drench the felt with alcohol. Assemble the cloud chamber (see below). Wait for 5-10 minutes. Turn off the light
- Use a flashlight to illuminate the metal plate
- (optional) put in a few uranium glass beads and reassemble

Thinking:

- What is the purpose of alcohol and dry ice?
- Why are some tracks straight while others are curly?
- Why are some tracks thin while others thick

Resources:

<https://scoollab.web.cern.ch/cloud-chamber>



- 1 See-through box
- 2 Felt
- 3 Torch light
- 4 Black metal plate
- 5 Box with dry ice