Chemistry of CO2

This is a cool experiment for all ages to learn and be motivated to pursue an interest in Chemistry. With homemade, low-cost, build it yourself instrumentation, one will learn about Carbon dioxide also known as CO2.

The purpose of this experiment is to be able to know the different physical states of matter, the physical changes, melting/ freezing point, and all of these pertaining to Carbon dioxide (CO2).

As, the video explains the materials, procedures- here is an easy to follow guide:

Materials
1. Goggles
2. Disposable Gloves
3. Long sleeve shirt or Lab coat
4. Dish Soap
5. Large container with a lid
6. Plastic Tubing
7. Duct Tape
8. Dry Ice (CO2)
9. Small Bucket
10. Warm Water

Build up of apparatus

- Grab a container that has a strong lid, when it is closed, and make sure the entry has enough space for the dry ice to enter with ease. [In our case we used PVC pipe with two lids at both ends]
- Measure out the Diameter of your tubing, because you want to puncture a hole that is similar in size for your plastic tubing to enter. [In our case our hole was about the size of a nickel coin]
- Pass the tubing through the puncture whole, allowing about 2 inches to be inside the container.
- Use Duct tape to seal any opening you might still have from the hole, from the outside of the lid. [Note: you don’t want any leaks, the only leak should be through the plastic tubing]

Down below is a hand drawn image of how your instrument should look like.
Chemistry of CO₂

- Closed Container
- Plastic Tubing
- Warm water
- Dry Ice pebbles (CO₂)
- Duct Tape

Diagram:
- Container
- Warm water
- (CO₂) Dry Ice
- Half Way
- Tubing
- Duct Tape
Chemistry of CO2

Procedure

- Begin by grabbing your Small Bucket and fill it up with regular temperature water, and add dish soap into it to make a soapy solution.

In your new instrument that you just designed and made do the following:

- Add warm water, half-way into your container
- Add a couple of pebbles into your container of CO2
- Close the lid tightly, make sure the white smoke is coming out only from the tubing.

Lastly, begin to dip the end of the plastic into your small bucket with soapy solution and watch how you create CO2 bubbles.