

# The Safe Explosion

(A Change In State Of Matter Experiment)

 **Time**  
5 min per demo

## WHAT YOU'LL NEED

(Provided in Primary Science Pack)

-  Ice Scoop
-  Red Plug
-  Blue Gloves
-  Dry Ice



**Always replace lid on dry ice box immediately after**

### You will also need:

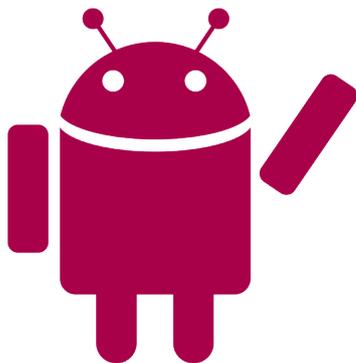
-  Safety Glasses for the demonstrator

## BACKGROUND

This experiment covers part of the statutory requirement for children to observe that some materials change state when they are heated.

**Don't be put off by the title!** This is very safe and will get a round of applause.....

Here we are going to blow the red plug out of the ice scoop. The red cap will fly up a metre or so in the air with a nice popping sound. This demonstration can be performed indoors.



## What To Do



1. Place the ice scoop on a table at the front of the class.
2. Place 3-4 pellets of dry ice into the ice scoop/cup. The easiest way to do this is to scoop the ice directly from the ice box. If you want to place the pieces in by hand please wear the lightweight blue gloves supplied in the pack.
3. Push on the red plug firmly. After about 20 seconds the red cap will pop off.



## What's Happening?



The warm air in the room is causing the dry ice to turn to a gas. Gases need more room than solids and liquids and so the pressure increases in the scoop eventually this will push the cap off.

The dry ice is changing from solid to gas

## Make this an experiment



To turn this demonstration into a true experiment ask the junior scientists to answer these questions:

- How would you speed up the bang?
- How could you get a bigger bang?
- How else could you get

