

# Floating Bubbles



## Time

10 min set up

1-2 min per demo

### WHAT YOU'LL NEED

(Provided in Primary Science Pack)

- ✓ Black Bucket
- ✓ Bubble Solution
- ✓ Plastic Scoop/cup
- ✓ Dry Ice



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

### BACKGROUND

This simple experiment is a great demonstration and shows that science can be magical (well almost!).

### What To Do



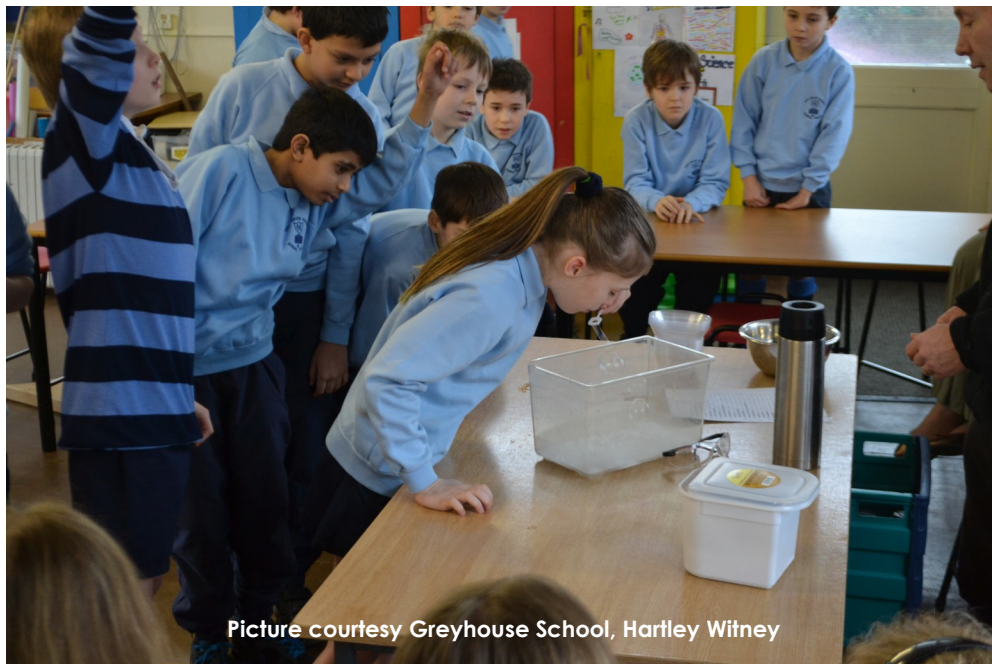
1. Collect some dry ice in the plastic scoop provided in the Primary Science Pack, don't forget to put the lid back on the dry ice box.
2. Half fill the scoop to give you about 200 grams of dry ice.
3. Scatter this ice into the base of the large plastic bucket and place the lid over the bucket loosely so that air can get in and out of the bucket - leave it for about 5 minutes. Don't leave it too long — if you put the ice in too early it will all turn to gas and may escape before you are ready!
4. When ready slowly remove the lid and invite students to blow some soap bubbles into the bucket. (The Primary Science Pack comes with bubble mixture.) Watch as the bubbles bob and float in the bucket.

### What's Happening?



The dry ice is solid carbon dioxide (the stuff that makes drinks fizzy). At room temperature it wants to turn to a gas and this gas slowly fills the bucket pushing out air.

Carbon dioxide gas is heavier than air and so it tends to stay in the bucket even though it can be pushed out by a draught from a window or air conditioning unit. This is why we suggest placing the lid loosely over the top of the bucket. After a while, particularly if you have enthusiastic bubble makers, the carbon dioxide gas may have escaped from the bucket and then the bubbles will not float. At this point you can either wait a few minutes before resuming, or you can pour a cup of hot tap water into the bucket which will produce some fog and will encourage the formation of the carbon dioxide gas.



Picture courtesy Greyhouse School, Hartley Witney

# Floating Bubbles



**Time**

10 min set up

1-2 min per demo

**Make this an experiment**

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

- **Why do bubbles float in the bucket but not in the classroom?**
- **Why do the bubbles stop floating?**
- **Why do helium balloons float?**



**TEACHER'S NOTES**

Using the equipment supplied and following these instructions means that the demonstration is very safe – as always please read the safety Information on dry ice provided with these downloads and available from [www.chillistick.com](http://www.chillistick.com)



Picture courtesy Greyhouse School, Hartley Witney