chillistick

How To Make A Big Fog Effect

Time
5 min per demo

WHAT YOU'LL NEED

(Provided in Primary Science Pack)

- Blue Gloves
- Ice Scoop
- Plastic Bucket/red lid
- Dry Ice

Always replace lid on dry ice box immediately after use.

You will also need:

- Hot Water, kettle (optional)
- Funnel (optional)

BACKGROUND

This demonstration can be conveniently performed immediately after the one for floating bubbles. This provides a really spectacular fog effect with a fog blanket falling onto the floor and creeping around the room!

What To Do

1. We recommend that the children sit in their seats for this demo.
2. If you have a kettle then fill to the maximum and switch on to boil, please ensure that the kettle sits for 3 – 5 minutes after boiling before using.
3. Meanwhile place a towel/ paper on a prominent desk at the front of the class. (the towel will soak up any moisture that might be created.)
4. Open the classroom door and we also recommend opening the window to provide plenty of fresh air.
5. Place the plastic bucket with red lid securely on the towel.
6. Pour two full scoop of ice into the bucket through the holes in the red lid and then add the contents of the kettle through the same hole.
7. The fog formed will hide your hand, but you need to empty entire kettle, consider using a funnel
8. Immediately a large quantity of fog will erupt from the bucket, you will need to keep your nerve as you may not be able to see your hand! When the fog has subsided you will be left with a bucket containing warm water, which is safe to pour down the sink.
9. If the children look carefully they will see that the fog is creeping over the floor!

Picture courtesy Farnborough Hill School, Farnborough

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What's Happening?

When dry ice and hot water mix the result is 'fog', lots of tiny drops of water in a cloud. The fog you have created is the same as the fog seen in nature. (It is also the same fog effects that your class may have seen on TV shows!)


Picture courtesy St Hilary's School, Godalming

Make this an experiment

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

- **How does the temperature of the water effect the fog?**
- **Why is the fog white?**
- **How can we make a bigger fog effect?**
- **What colour is carbon dioxide gas?**


Picture courtesy Greyhouse School, Hartley Witney

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 The most hazardous item here is using the hot water from the kettle. We recommend that the water rests so that the temperature falls a little before use, ideally to the temperature of a cup of tea.

Hot water encourages the formation of fog, colder water produces far less fog. You can show this by adding very chilled water to some dry ice in the scoop and compare this to adding some hot water.

Why is the fog white? This is a tough question to answer simply but it likely to be asked! The fog is made up of tiny drops of water and these droplets are so small they scatter light. The result is that the fog looks white in the same way that clouds and fog from weather systems looks white.