This is a quick and dramatic demonstration which illustrates how sound is generated and provides a hint about loudspeaker design. It’s also a little creepy… well certainly annoying.

**Things you need**

- Large spoon or preferably a large metal surface
- Hot Water
- Tongs or gardening gloves

**Instructions**

There are a number of ways of getting a screaming sound from dry ice. Place a couple of pieces of dry ice on a paper towel and place on the bench top. Press a spoon firmly against the ice, you will hear a high-pitched screeching sound. Better still, if you have a large metal surface hold a piece of dry ice in a pair of tongs and press against the metal surface for a few seconds. A baking tray works very well.

If you do not have tongs use thick gardening gloves to hold the dry ice, or as a last resort use several pieces of paper towel folded to provide insulation for your hand whilst you push the dry ice onto the metal surface. Please note that paper towels should not normally be used to handle dry ice however in this case you are only holding the dry ice for a few seconds to create the screaming noise so the paper towels will provide adequate insulation.

**Class Discussion**

**What is making the noise?**

Contact with the relatively hot metal is causing the dry ice to sublime. The escaping gas pushes against the metal causing it to vibrate like a loud speaker (in this case a horrible loud speaker!).

**What happens when the spoon is placed in hot water first and then put against the ice?**

If you keep the spoon pressed against the ice the noise will diminish, why is this? (less sublimation as the spoon surface gets colder.

- Using a large metal object (with a large thermal mass) has the advantage that the screaming goes on for longer.

**Why metal?**

Metals are good conductors and so as the metal is chilled by the dry ice, more heat is being conducted to this cold spot so prolonging the sublimation. You can get the screaming effect with plastic but it is very short-lived, because plastics are not good conductors.