SUITE SCIENCE

Dry Ice Bubbles

CLASS: 4th- 6th | Demonstration | SESE (SCIENCE)

Learning Objectives - WALT (We are learning to…)

1. Explore the differences between solids, liquids and gases and how materials change into different states.
2. Learn about dry ice and a new term sublimation.

Curriculum links
Science

- Materials and change – Heating and Cooling. Solids, liquids and gases

Teaching Methodologies

- **Talk and Discussion** - listening, questioning
- **Collaborative/Cooperative Learning** - group work
- **Active Learning** – Hands on learning experience with real life examples.
- **Skills through Content:** observing, predicting, describing, recording, classifying.

What is Dry Ice

This experiment is not really available for everyone to do. This is more of a demonstration for a teacher or responsible adult to do while people watch. In fairness though – it is pretty cool to watch!

Dry ice is frozen carbon dioxide. It has a surface temperature of about -79 degrees Celsius. Dry ice does something unusual: it sublimes. This means that as it breaks down, it turns directly into carbon dioxide gas rather than a liquid. So, it goes straight to a gas from a solid unlike normal water ice that goes from solid to liquid to gas. The super-cold temperature and the sublimation feature make dry ice great for refrigeration. For example, if you want to send something frozen across the country, you can pack it in dry ice. It will be frozen when it reaches its destination, and there will be no messy liquid left over like you would have with normal ice…. Why? Because it doesn't become a liquid!

So, what's the demo?

Dry Ice is really cold, so warm water is really hot in comparison. It causes the dry ice to sublime and turn into carbon dioxide gas. This would normally just bubble out like a witch's cauldron however if you add some washing up liquid, the carbon dioxide will get trapped inside and fill the bubbles. This means you can pick them up and pop them to let the CO2 out. If you attach a tub to your container you can get the bubbles to come out and bounce on a towel, a glove or else a flat smooth surface that has some water on it.

Safety:

NOTE: Whenever you use dry ice, always be aware of the rules for handling it safely.

• Use dry ice only with adult supervision, dry ice must be handled using heavy gloves or tongs. It will cause severe burns if it comes in contact with bare or unprotected skin. • Always wear safety goggles when handling dry ice. • Never put dry ice in your mouth • Never store dry ice in an airtight container. • Do not store dry ice in your freezer

Fondúireacht Eolaíochta Éireann
Dá bhfuil romhainn
Science Foundation Ireland
For what's next
UCD DUBLIN
Insight
SFI RESEARCH CENTRE FOR DATA ANALYTICS