



Ice Cube in Space

Getting Ready

What happens if you put an ice cube into some cooking oil? It's an *Ice Cube in Space!*

Stuff to Make it Happen (Materials)

clear container* cooking oil* ice cube* (colored would be good)

Making it Happen (*Be careful, the floor could get slippery, try not to spill!*)

1. Pour the clear container just about full of cooking oil.
2. Plunk in the ice cube. Notice it drops down a little and then comes up to just hang there, like it's "lost in space". Watch what happens as the ice cube begins melting!
3. Check out those drops as they start to move downward, ever so slowly! Observe how the drops which are at the bottom suddenly stick together!!

Understanding the Science

What's going on here? Ice is simply frozen water, in the **Solid State** so to speak.

If you pour liquid water and oil together, the water goes under the oil. This happens because water's **Density** is greater than oil's density. So why does the ice float while the water made from the ice melting sinks to the bottom?

Most **Liquids**, when they become solids **Contract**, they get smaller. This is because the **Atoms** and **Molecules** slow down and take up a form which is more dense or thicker. That's not true with water! Water is truly Unique because when it becomes a solid it **Expands** to a larger form. This makes the density decrease slightly. You've seen ice float in a glass of water to prove this quite well!

Let's Check the View!

(Questions and Assessments)

1. Let's say you put a solid material into oil which suspends itself just like ice did. When it melts the drops go upward. Is the density of this liquid more, less, or the same as the oil? Explain your answer.

