



New

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Email from: Agent Pace

To: Science Spies!

**Science Spies, come in Science Spies!**

Agent Pace here. I have an urgent problem requiring immediate assistance. As we speak, I am hiding in Dr Frostbite's top secret Ice Castle, which has been constructed completely from solid ice. I have learned that Frostbite has invented a new weapon – but have no idea where it is hidden, and the castle is enormous! Can you think of a way to melt Frostbite's castle – but without starting a fire? (I forgot the matches). Then I could easily find his latest weapon and put him out of business for a long, long time.

Please help, Science Spies – the planet depends on YOU!!!





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Email from: Head of Science Spies

To: Science Spies!

**Calling all Science Spies lab assistants...**

I have supplied you with the materials you will need to help Agent Pace. I have also enclosed some information that may be of help to you when conducting your investigation.

Good luck, we're depending on you!

**Some interesting facts about changing states**

Materials can change all the time. They can get bigger, get smaller, and change from a solid to a liquid and a gas, and back again. These changes are called 'changes of state'. They often happen when materials heat up or cool down. Here are some examples of changing states:

- When an ice lolly gets too warm it will start to melt. If you put it back in the freezer, it will turn back into a solid.
- When water boils, it changes from a liquid to a gas – water vapour (or steam).
- When water vapour cools down, it turns back into a liquid – rain. This is called condensing.
- Wax candles melt when they burn.
- Sometimes when the weather is very icy, or if it has been snowing, salt is put onto roads. The salt lowers the 'melting point' of the ice, so the ice starts to melt quickly and change state from a solid to a liquid. The liquid is less slippery and less dangerous to drivers.



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Email from: Evil Dr Frostbite

To: Science Spies!

**Well hello there Science Spies,**

Ice cool Dr Frostbite here. I have once again captured your useless Agent Pace and I have used my new device, the very clever Ice-pop-omatic gun to freeze him into a solid block of ice.

Ha ha, ha, I'm sooo brilliant...!



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Message from: Evil Dr Frostbite

To: Science Spies!

**Science Spies... Come in Science Spies...**

I am standing in a very large puddle, so I hope you are proud of yourselves! Agent Pace has melted my magnificent Ice Castle. Just before he completely froze into a lump of ice, he managed to call your headquarters and have a helicopter pour salt onto my beautiful palace! And, during the confusion, he even had the cheek to steal my wonderful Ice-pop-o-matic gun!

All I can say is: you haven't heard the last from me, Science Spies! I'll be back. Mwha, ha, ha, ha!!!

