

Can you hear the chemistry?

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If you put hot chocolate powder into hot water and tap the mug, the sound produced gets higher. This happens because bubbles of gas rise to the surface and escape as the powder dissolves.

Scientists in Ireland reacted an acid with another chemical. This produced bubbles. They tapped the side of the vessel, recorded the sound, and discovered they could work out how concentrated the acid was based on the pitch of the sound.

This is a new way of working out how strong an acid is. It could even be done by humans without equipment. The technique could also be used to test yeast before it is used to make beer.



cup of hot chocolate with whipped cream and cocoa powder by 4028mlk00 is licensed under CC BY-SA 3.0

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This is a new way of working out how concentrated an acid is. It could even be done just with a human ear without equipment. The technique could also be used to test yeast before it is used to make beer.

1. How many other ways do you know of measuring an acid's concentration? How are they different to each other?
2. What are the advantages of measuring an acid's concentration using sound?
3. What other senses do you use in chemistry? What for?
4. Explain and solve three problems that a blind chemist would have.
5. Try this with some hot chocolate at home and tell your teacher whether you can hear the sound change!