

## Speak up

Why is your voice different from the voice of an old man?

Well, we all have this thing in our necks – called a voice-box [in some people you can see it from the outside].



[Photo: Pixabay. Many thanks]

And, in that little box there are your ‘vocal cords’ – and they make your voice.



[<http://clipart-library.com/string-instruments-cliparts.html>]

All of these instruments have strings [and your vocal cords are like little strings].

If you stroke the strings of these instruments, they sound different. And, on the same instrument, the thick strings sound different to the thin strings.

So, kids and adult women have vocal cords which give higher pitched voices than old men.

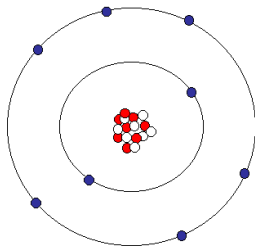
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OK, so how do we stroke our vocal cords? By letting air come out when we want to speak. Try speaking while you are holding your breath.

No, I can't hear anything!

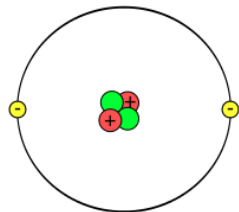
Changing the subject, a bit

OK, gold, mercury, oxygen, hydrogen, helium – what are they? No... not boring... they are elements. They are the same all the way through. Each element is made up of small pieces [atoms] – and the atoms of the different elements are different.



This is what an atom of oxygen looks like – there are 16 lumps in the middle and 8 tiny bits spinning around them.

OK, this is what an atom of helium looks like. It only has 4 lumps in the middle and two bits spinning around them.



[Svdmolen/Jeanot (converted by King of Hearts)  
<https://commons.wikimedia.org/wiki/File:Atom.svg>]

So, oxygen is much heavier than helium. So, when you are breathing normal air your voice sounds normal. BUT, when someone is blowing up balloons with helium and they take a breath of helium and speak – their voice is really funny and squeaky, like a cartoon character.

Why is that? Well, oxygen is heavier [and so are some of the other elements in air – like nitrogen] than helium, and when they [oxygen and nitrogen] bang into the vocal cords on the way out, they give

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them a pretty good bang – and we hear a normal voice. But, when you breathe out helium it just gives the vocal cords a slight tickle – and so, you sound like a cartoon chicken.

Yes, it's fun. But, don't do it. At least, don't do it for more than one breath. We breathe because we need oxygen – everywhere – in your back, in your fingers, in your heart. If you breathe a lot of helium or anything else, it will push the oxygen out of the way, and you won't get the oxygen where you need it. And then we will have to put you somewhere really boring.



**Q: What is the best thing about Switzerland?**

A: I don't know, but the flag is a big plus.

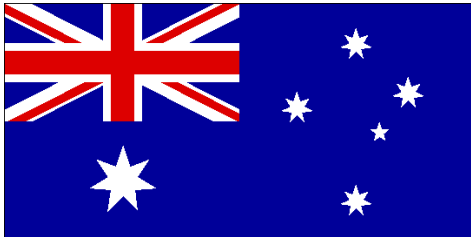
This is a joke [and a hint].

But, now, you have to try to pick out the flag of Switzerland.

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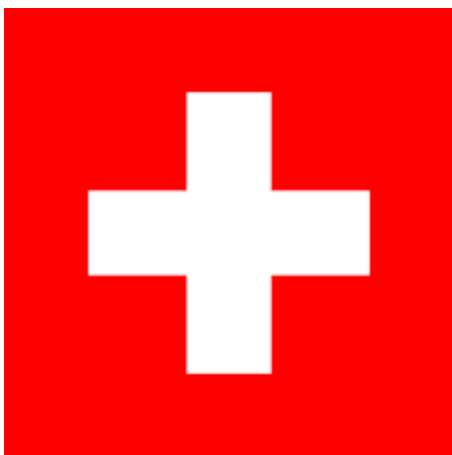
No, that's the flag of the United Kingdom [England, Scotland, Wales and Northern Ireland].



No, that's the flag of Australia. You can see the United Kingdom flag up in the corner.



No, that's the flag of Indonesia.

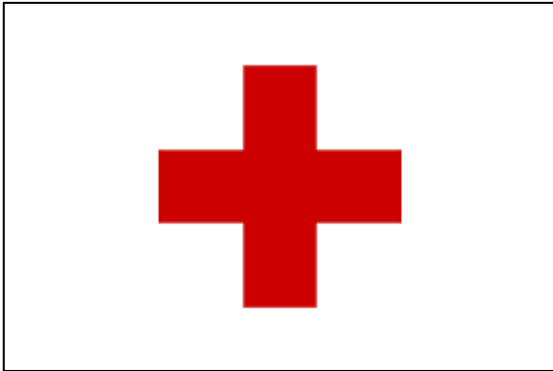


Yes, that's the Switzerland flag.

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So, now you see the joke about the flag of Switzerland being “a big plus”.

Now, here is an interesting fact:



This is the flag of the Red Cross – not a country, but a group of people who help sick and injured people all over the world.

Now, Switzerland is a pacifist country – which means they won’t fight wars.

The Red Cross people try to help everyone, and they don’t like fighting. They think Switzerland was good not to fight in wars. So, they [the Red Cross] people use the Switzerland flag – but, with the colours changed around.



This is the flag of Swaziland – not Switzerland – we just put this in to confuse you. The black and white are a cow hide shield. There are two spears and a stick. The blue stuff on the stick is feathers.

Swaziland is a tiny country in Africa. Please remember this, as we don’t want to have to go through it again.

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There are two muffins baking in the oven. One muffin says to the other, “Phew, is it getting hot in here or is it just me?” The other muffin says, “AAAAHHH!! A TALKING MUFFIN!”

**Q: When do you go at red and stop at green?**

A: When you're eating a watermelon.