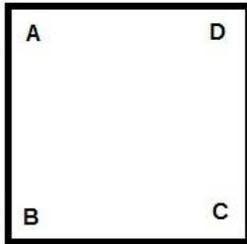
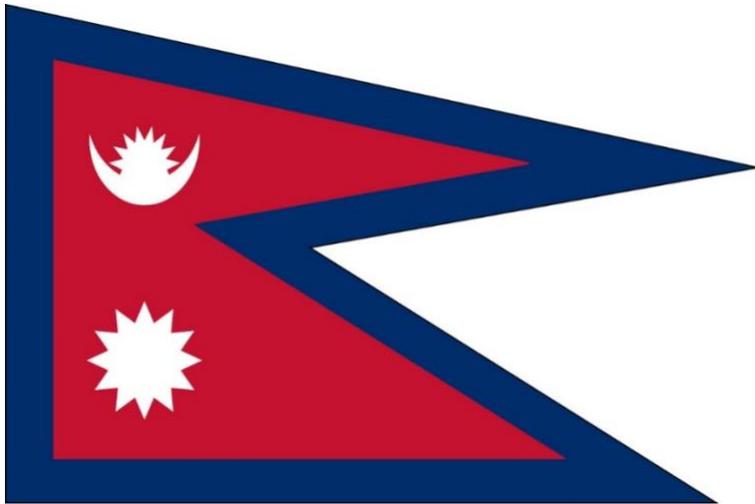


## Flags



These corners are called ‘square’. All the flags in the world – hundreds of them – all have ‘square’ corners. Except...

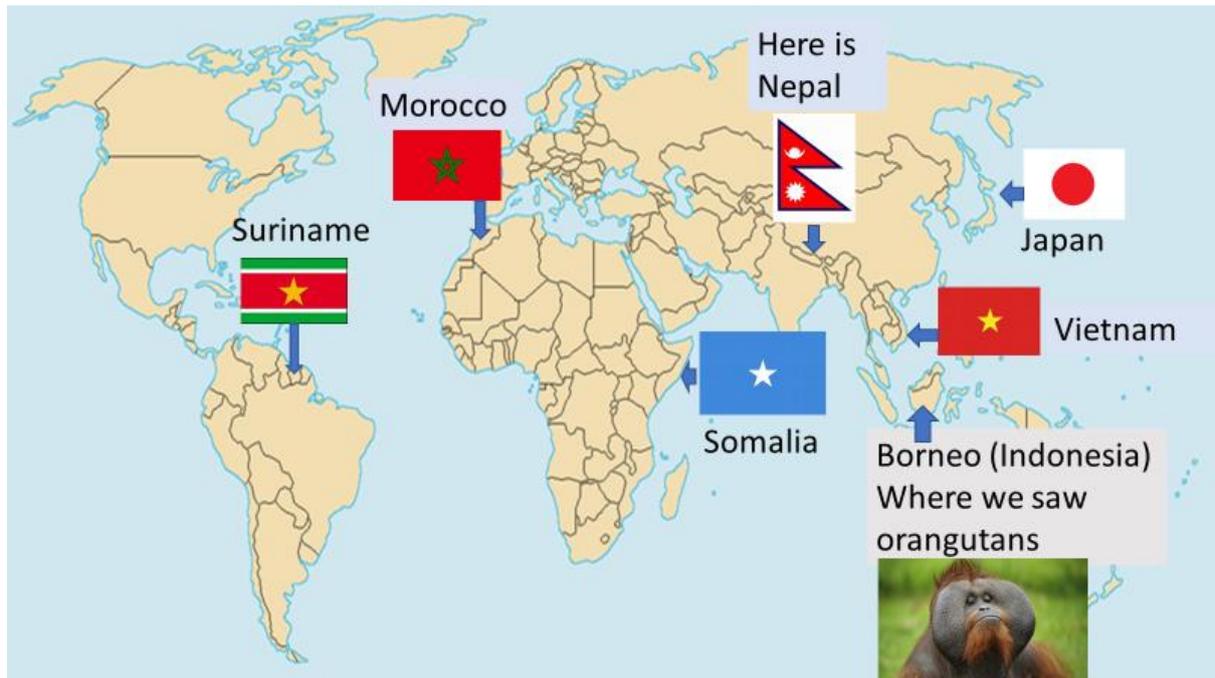


The flag of Nepal.  
It is spiky – the spikes look like the mountains of Nepal.



They have some pretty spiky mountains in Nepal.  
[We could call their flag the Nepalese flag.]  
OK, so, where is Nepal [with all its mountains]?

Show your parents  
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What if you wanted to go there? Which direction would you go in? That would depend on where you are now, of course. If you are in Morocco, you would go east, if you are in Japan you would go west.

Let's pretend you are in Tasmania, the island below mainland Australia.



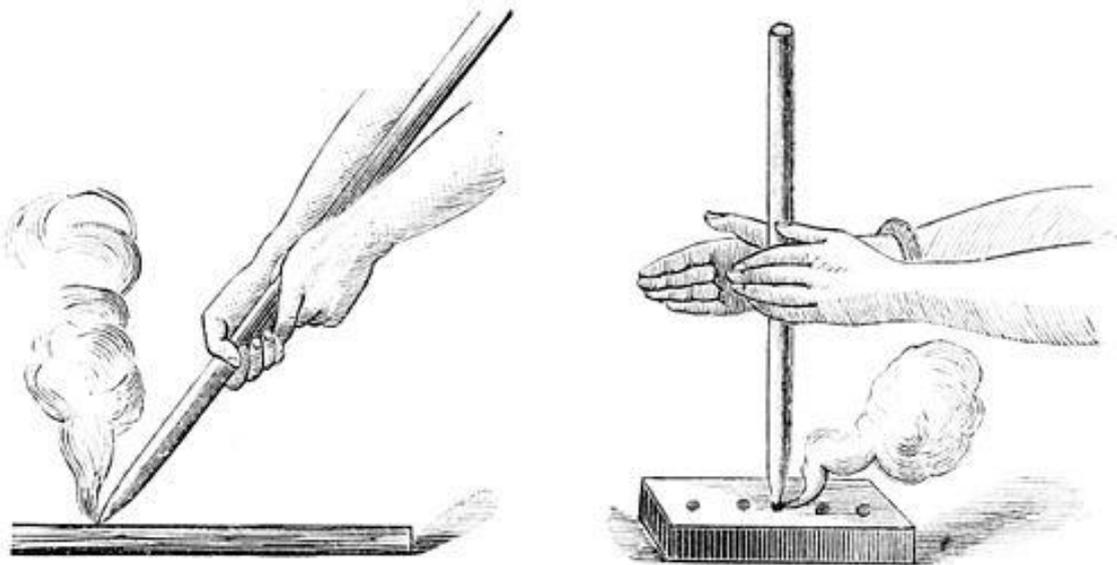
You would have to go ‘up’ which is called north, and over to the ‘left’ which is west. So, halfway between these is called north west – that’s the way for you. You can see NW on the compass.

## Getting fired-up

If you rub two pieces of wood together for a long time, they will get hot, where they are touching.

Your arm will get tired – because you will use up a lot of energy.

Some of the energy used up in your arms will be placed where the wood is touching – some of the energy from your arms will make the place where the wood is touching very hot.



[Wikimedia Commons, the free media repository  
[https://commons.wikimedia.org/wiki/File%3APSM\\_V10\\_D029\\_Ancient\\_fire\\_making\\_methods.jpg](https://commons.wikimedia.org/wiki/File%3APSM_V10_D029_Ancient_fire_making_methods.jpg)]

Where the wood is touching it can get so hot that a fire starts. If you put some dry grass around the touching point you will get flames and a proper fire that you can keep going by putting on some sticks.

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This is how people made fire before we had matches and lighters and things like that.

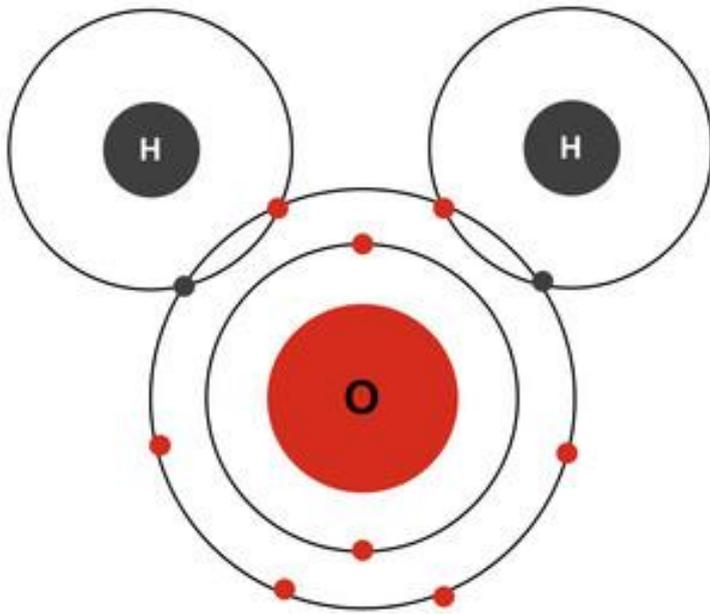
You could boil an egg with that fire – it would go hard, and you could eat it!

So, the energy from your arms heated the wood and caused a fire and energy from the fire heated the water and the energy from the water changed the egg so that you could eat it. Food is a form of energy, and gives you energy so you can do stuff, like lighting fires – oh, no, here we go again!!

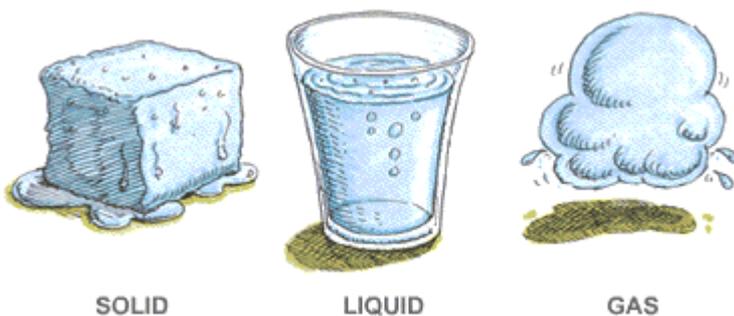
**Knock, knock.**  
**Who's there?**  
**A titch!**  
**A titch who?**  
**Bless you!**

## Water

In Chapter 25 we said that water looked like Mickey Mouse. Chemists call water  $H_2O$  – you can see why. Two hydrogen [H] atoms join up with one oxygen [O] atom. They join up by sharing some of those electrons which are spinning around. When atoms are joined up in this way, it is called a molecule. So, this is a molecule of water.



OK, we know if we put water in the freezer, it will become ice, hard stuff, not runny like (liquid) water – but it is still the same stuff, still H<sub>2</sub>O. We know water can also be gas.



[American Water Works Association, 2002  
[https://www.pwvc.com/story\\_of\\_water/html/3forms.htm](https://www.pwvc.com/story_of_water/html/3forms.htm)]

You have seen water in gas form when the kettle is boiling and some steam comes out – that steam is very hot – so, don't put your hand near it. You have also seen water in gas form when you have looked at clouds in the sky – you know that rain [liquid water] comes from the clouds. [The clouds are not hot like steam, but that is a long story.]

The molecules of H<sub>2</sub>O in ice don't move around much – they form clumps of six molecules and stay in one place.

Show your parents  
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In liquid [runny] water the oxygen atoms link together and the water molecules are in long chains.

This is as you would expect. Ice is hard and keeps its shape, so, you would expect the molecules to be pretty well stuck together.

Liquid water flows sideways, but it stays in a container – the water in your glass does not drift off into the air!

The molecules in steam have a lot of energy [because they are hot] – they are not joined together, but move around separately. Therefore, they can leave an open container and drift off around the room.

**Knock, knock.**

Who's there?

**Ice cream!**

Ice cream who?

**Ice cream if you don't let me in!**



Orangutans are apes [primates] which now live mainly in Malaysia and on the island of Borneo [part of Indonesia]. Not many of them are still alive and they need to be protected.

Show your parents  
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**Q: Where do cows go for entertainment?**

**A: The mooooo-vies!**

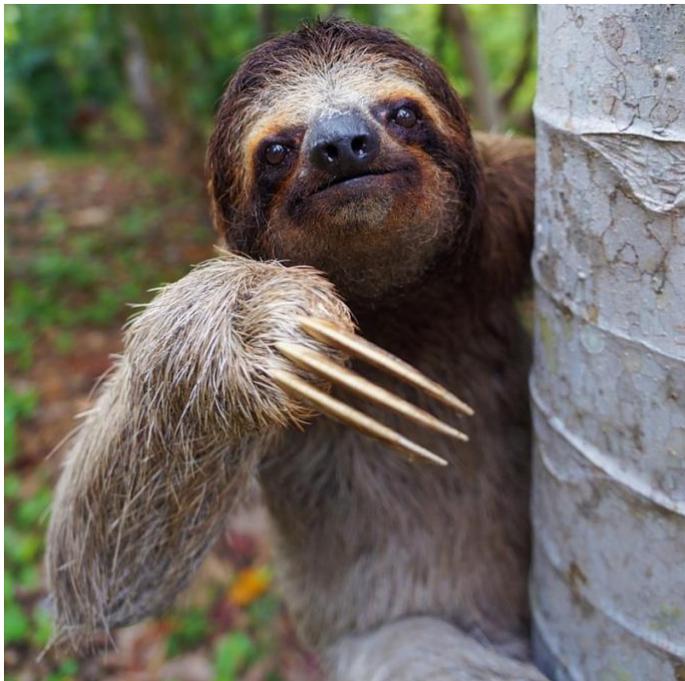
**Knock, knock.**

**Who's there?**

**Wooden shoe.**

**Wooden shoe who?**

**Wooden shoe like to hear another joke?**



This is a sloth – they live in Central and South America. They look a bit like primates – but they are not, and are closely related to anteaters.

They are very slow moving [the name sloth comes from the word slow] and interesting animals. They only go to the toilet about once a week!

**Q: Why couldn't the pony sing?**

**A: Because she was a little hoarse.**

Show your parents  
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