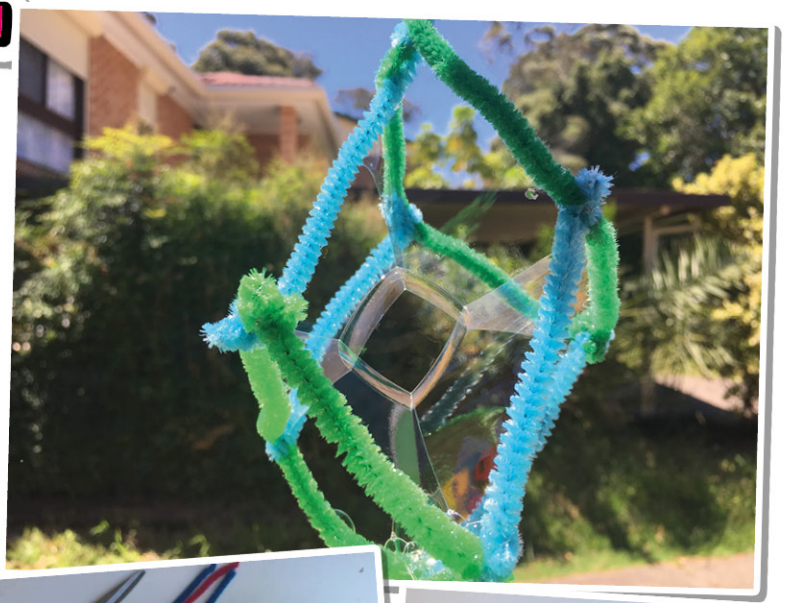
JUST KIDDING bytesize

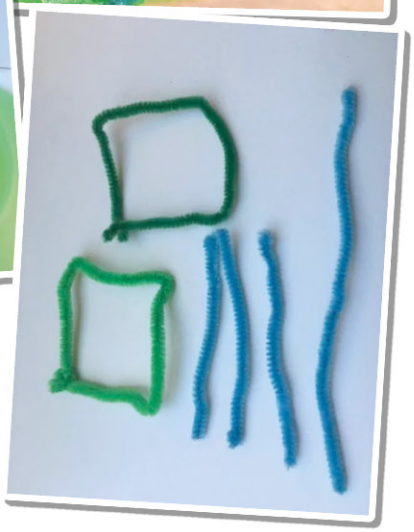
SCIENCE

BUBBLE GEOMETRY

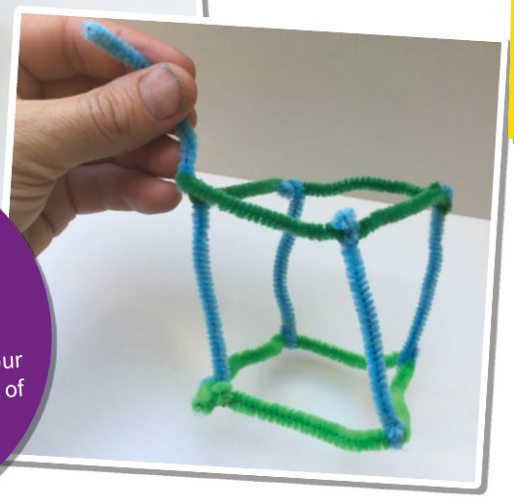


YOU WILL NEED:

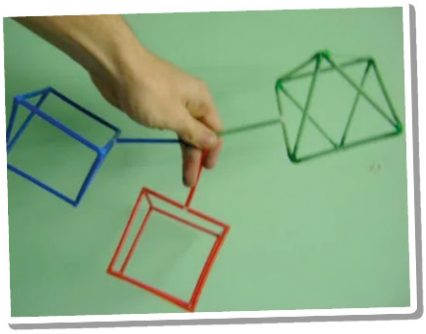
- Four Pipe cleaners
- Strong Bubble mix
- Deep bucket
- Somewhere you can get wet!



1. Carefully pour the bubble mix down the sides of the bucket to avoid making small bubbles.
2. Connect pipe cleaners together to form a cube … i.e. 6 sides.
   - A. First fold one of the pipe cleaners into a square.
   - B. Now fold another of the pipe cleaners into another square and chop one of the other pipe cleaners into 3 parts. Leave one pipe cleaner untouched at this point.
   - C. Wind each of the short pipe cleaner pieces onto the corners of the 2 squares made.
   - D. Finish off the cube with the final pipe cleaner and leave a small amount hanging off the cube to act as a handle. You can straighten up the frame later.



3. Dip the cube into the bubble mix and carefully withdraw it a couple of times. Can you make a cube-shaped bubble form on the inside of the pipe cleaner frame?
4. Try making tetrahedron (4 sides), a octahedron (8 sides), and a dodecahedron (12 sides)!
5. Does the bubble shape match the shape of each frame… why?



Did you know that you get taller when you go into space?

Why? the cartilage disks in your spine expand due to the lack of gravity, making you taller.

We caught up with Ben from Fizzics Education to find out a little more about the career of a scientist!

So we hear you are the ultimate science guy with awesome experiments, can you tell us which is your favourite experiment and why?

Oh gosh! There are so many awesome experiments out there, it's pretty hard to pick a favourite! Still, my favourite experiments are based on simple activities that give surprising results. Take ice for example; you'd think it always melts the same way when it is on every surface. But did you know that if you put ice on a metal tray vs a plastic tray, it always melts faster on the metal tray even though the metal feels colder than the plastic tray? It's so weird to watch, as after feeling both metal and plastic you really expect the ice to melt faster on the 'warmer' plastic... yet it does the opposite! This is because the metals move heat into ice much better than plastic ... it turns out that both the metal and plastic are the same temperature and they're in the same room! It's the strange experiments like this that really get me excited about exploring our world.

What started you off in a science career, was this something you loved since you were a kid?

Absolutely! When I look back, I know that I saw a science party when I was about 7 years old. I was at a friends place for his birthday party and I saw this person making ice-cream and smashing stuff using something really cold. I was hooked! Now I know that what I saw was liquid nitrogen being handled safely by a scientist and I'm convinced that this is what set me off into a science career. I've always loved exploring things and seeing what makes things tick. Combine that with nature documentaries and lots of time building & creating things outside and you have a recipe for a scientist!

We are sure that we have lots of budding scientists in our readers, what would you say to them and how would you inspire them to continue studying science?

Many of your readers already are great scientists! They explore things, they ask questions, they think about what is happening around them and read about explorers & inventors who've made awesome discoveries. Science is a way of looking closely at the world around us. As you go through school, listen to and watch how your teachers set up science experiments. They always only change one thing and see if that makes any difference to their experiment. Copy them! If you always practice setting up safe experiments that can fairly test what you want to find out, you are well on your way to becoming a fantastic scientist.

Lots of kids are schooling from home at the moment, what tips can you offer them?

If you can, take some time to have a break from your screen. Build interesting contraptions, search for insects outside, use the free experiment ideas on the Just Kidding website as well as the ones you can find on the Fizzics Education website. There are plenty of fun things that you can do at home that use household materials. Ask an adult to set up a safe online space where you can hang out with your friends and maybe run some of these science activities together... it's a lot of fun! Also, be kind to your family who is looking after you and find ways to look after them too :)

If you hadn't ended up with a career in science, what do you think you would be doing now?

I love the outdoors as well as sport. If it hadn't been for my love of science, I reckon there would have been a strong chance that I either would have worked in bushland areas or would have worked in sports & recreation. By the way, this doesn't mean that I can't have both! I still get outdoors as well as find time to spend with my family & friends doing all sorts of outdoor activities. In fact, I know of plenty of scientists who combine science and the outdoors... maybe I could do that too!

What is the most embarrassing thing that has ever happened to you when demonstrating your experiments?

Ha! Well, I haven't set my hair on fire or anything like that :) Still, every now and then things don't go always to plan. Over the years I've had water rockets get stuck on roofs, slime spills through my car, electrical circuits fail and more. The thing is, these have all been learning experiences and have made me not only a scientist but also a better teacher. It's always been about improving on ideas and finding new things to try.

What is the funniest comment you have had from an audience member?

I love working with audiences of all ages! I remember asking the audience why I needed to wear safety glasses when handling liquid nitrogen; someone called out "So your eyes don't become eye-cicles!". The entire audience erupted with laughter and it was a fantastic moment where good humour and science come together.

Can you list the whole periodic table and what is your favourite thing on it?

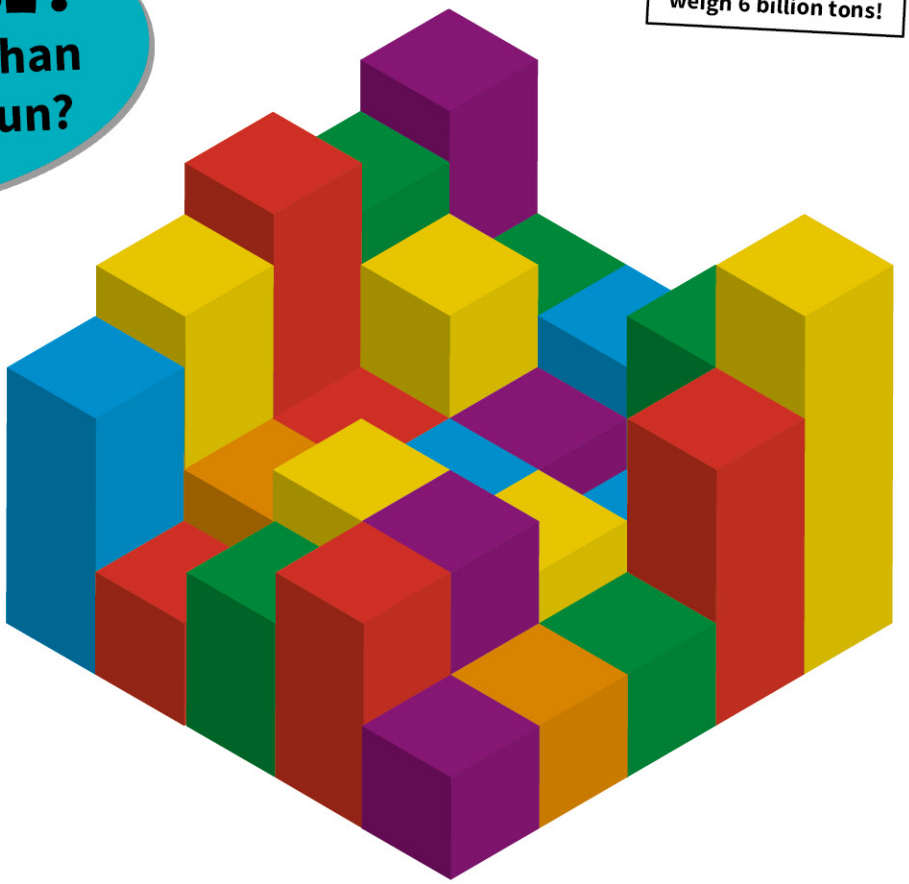
I wish! There are plenty of people who can do this (seriously, lots of schools have competitions for reciting this in a song on February 7 which celebrates the day the periodic table was published!). I think my most favourite element on the periodic table would have to be carbon as it forms the basis of all known life on Earth. After that, I think is Oxygen is pretty important to all of us too :)

Fizzics Education Since 2004
Innovative Science Shows & Workshops!

For hundreds of experiments, science trivia, podcasts and more free learning resources, head to *fizzicseducation.com.au/freeresources*

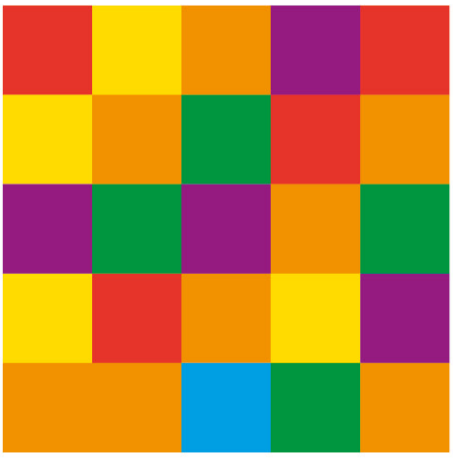
TRUE OR FALSE?
Lightning is hotter than the surface of the Sun?

A teaspoons worth of a neutron star would weigh 6 billion tons!

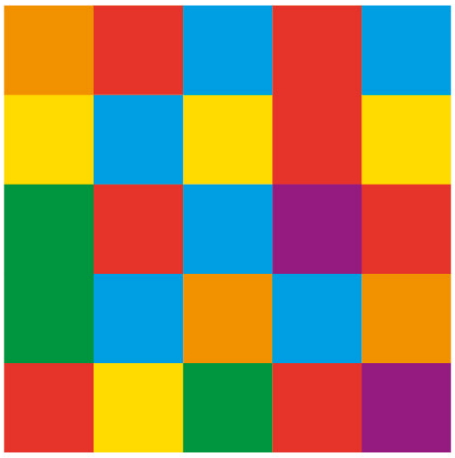


CAN YOU MATCH THE CORRECT TOP-VIEW PATTERN TO THIS IMAGE?

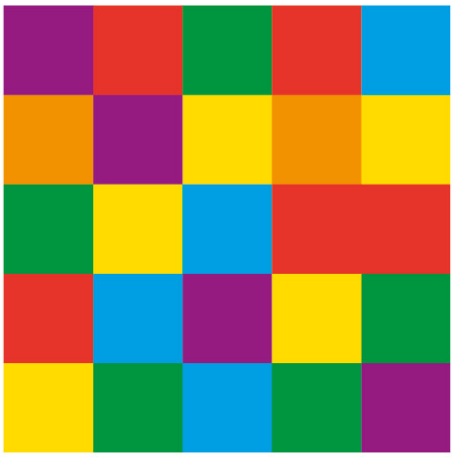
a



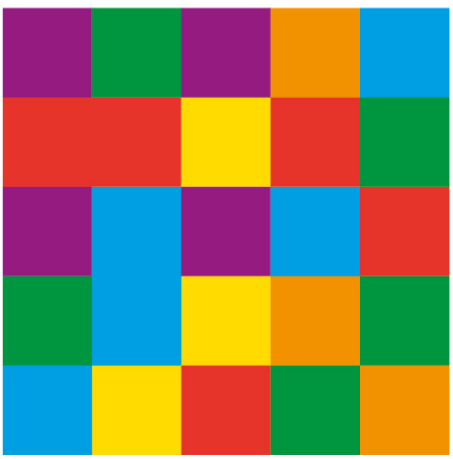
b



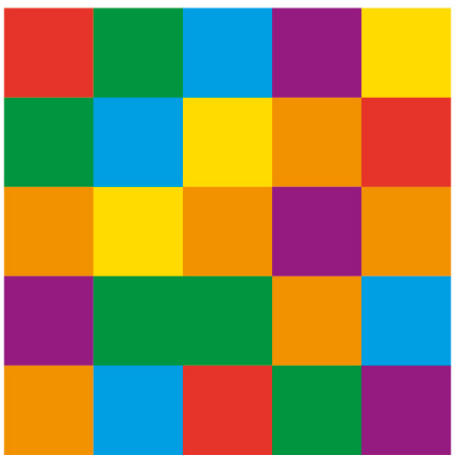
c



d



e



f