A Neutron in the LHC

created by the students of:

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Le Jardin des Particules
crèche et école

collaborative project «Creation of the Universe and Particles»

Greece, Switzerland
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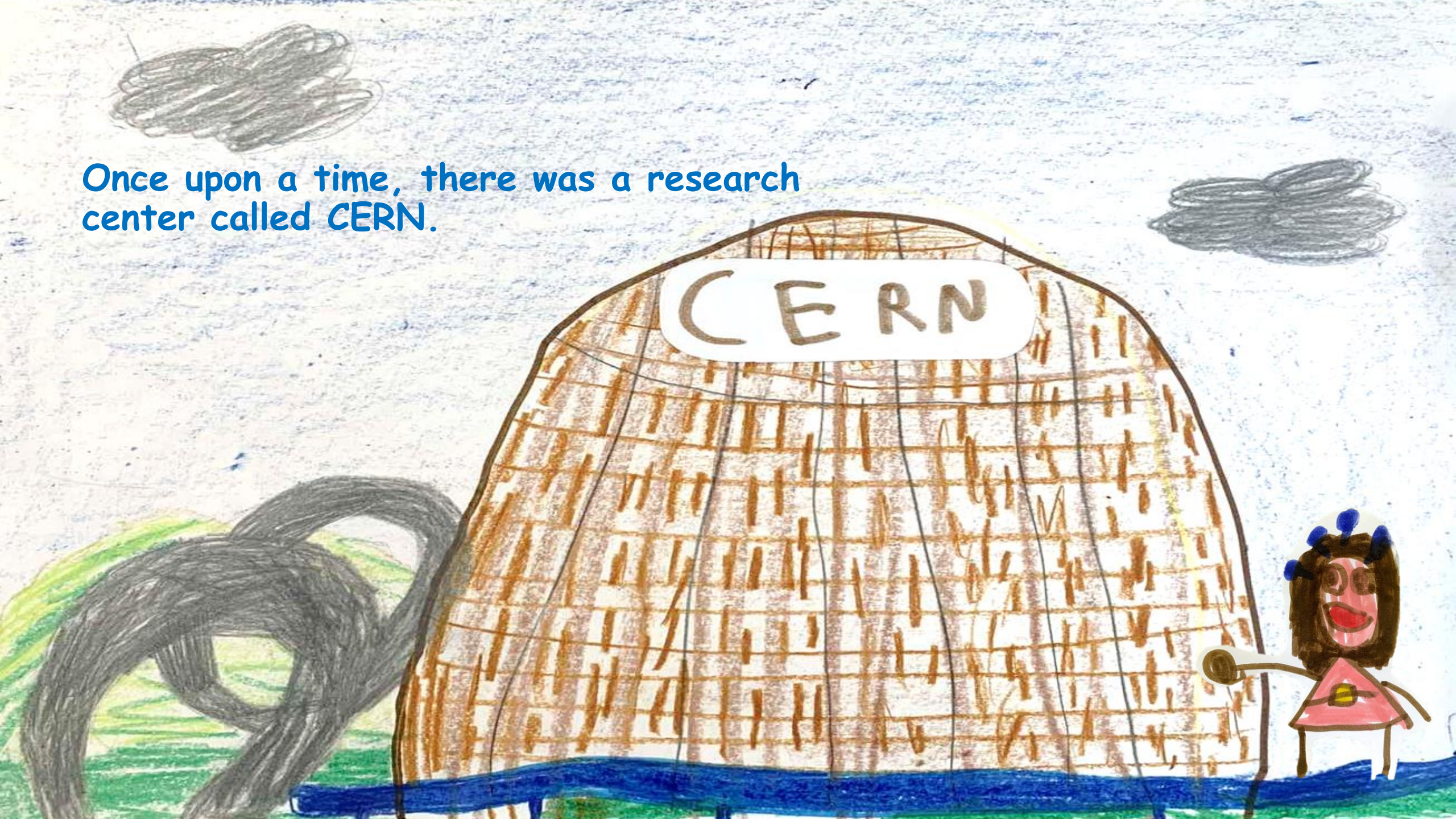
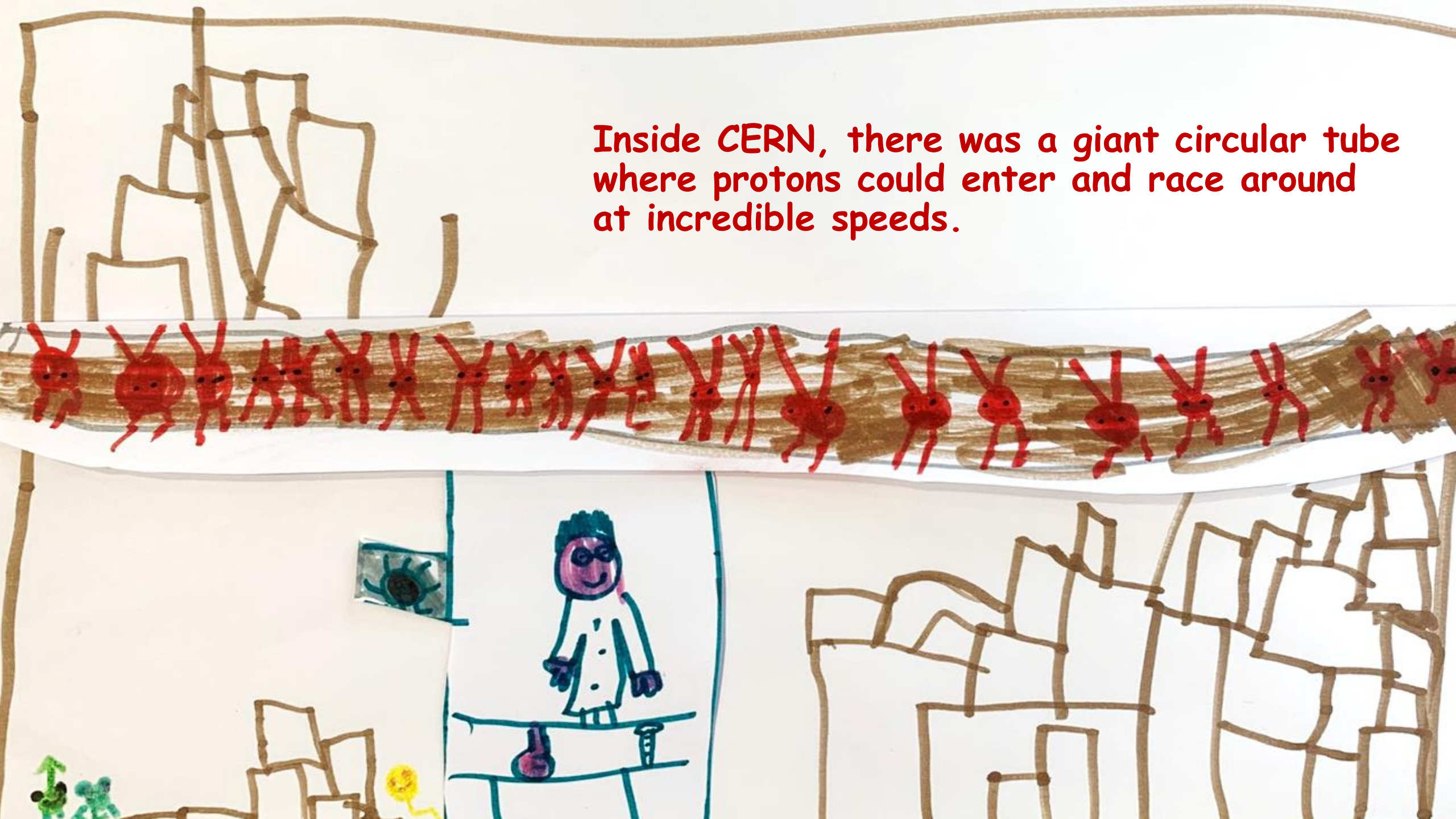
Once upon a time, there was a research center called CERN.



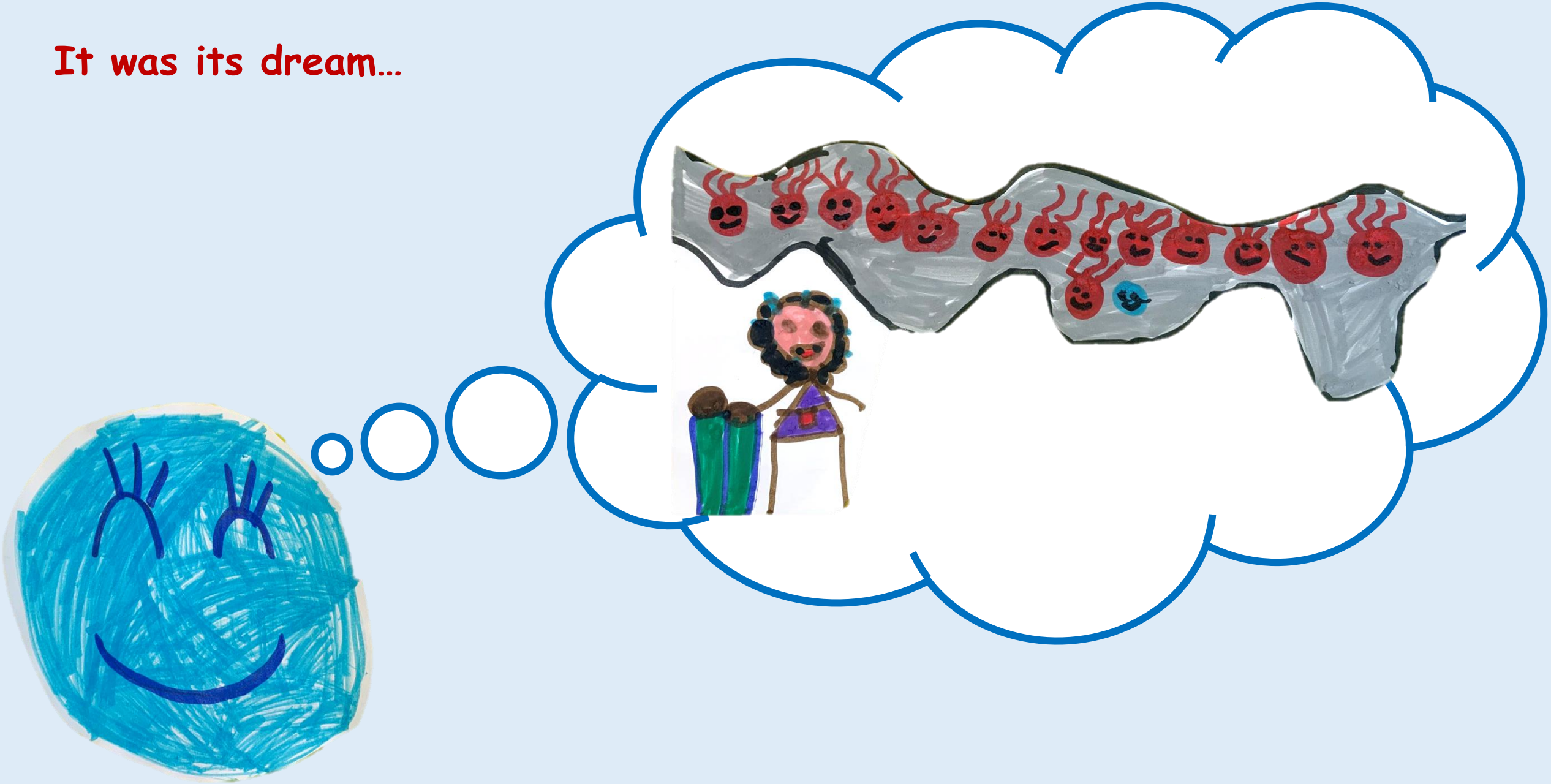

Inside CERN, there was a giant circular tube where protons could enter and race around at incredible speeds.

The protons loved it! They zoomed around the track, going faster and faster. It was so much fun that they couldn't wait to do it again!

But one neutron stood nearby, watching the protons race, and felt a bit jealous. It thought:

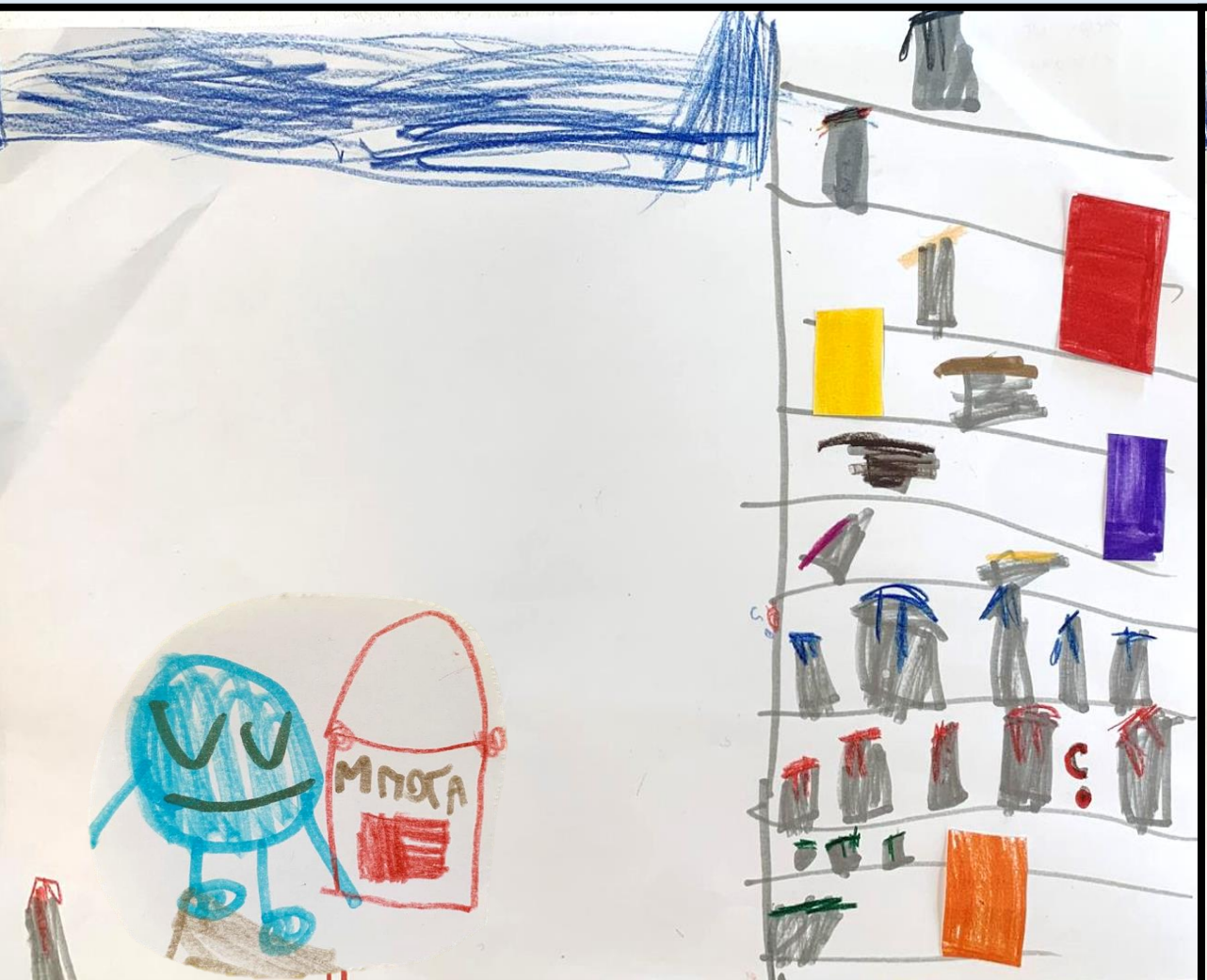
I want to have fun too!

It was its dream…



The neutron had asked the scientists many times if it could join, but they always said no.

So, one day, the neutron came up with a clever idea. It decided to disguise itself as a proton and sneak into the tube with the other protons.



It grabbed some red paint and a brush and carefully painted itself red, from top to bottom.

Tadaaaa...

Now, it looked just like the protons.
It was so happy!

Finally, the big moment arrived. The experiment was about to begin.
The neutron slipped into the tube, right among the real protons.
No one noticed a thing!

Everyone got into position, ready for the big ride.

The neutron couldn't wait—its dream was about to come true!
3, 2, 1… the scientists pressed the button and… WHOOSH!

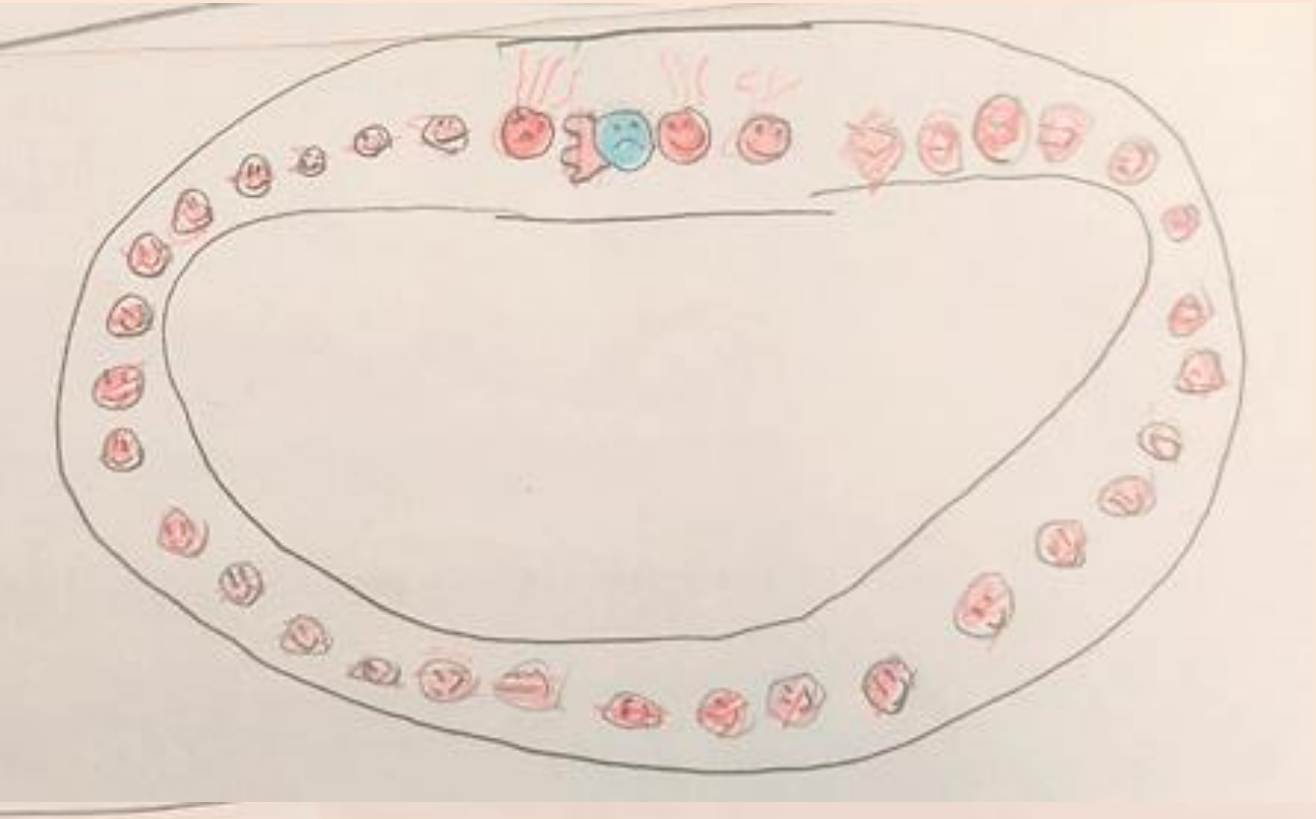
…all the real protons zoomed off, racing faster and faster, while the disguised neutron was the only one left behind…

The neutron didn't understand what had happened and why it couldn't join in the fun.

Then, the neutron had an idea:

The collider is circular, so the protons will pass by again.

I'll catch one of them, hold on tight, and enjoy the ride!



And so it did. But the protons were moving so fast that the neutron lost all its paint. It turned BLUE again!

The protons noticed the neutron and started screaming.

They were very upset.

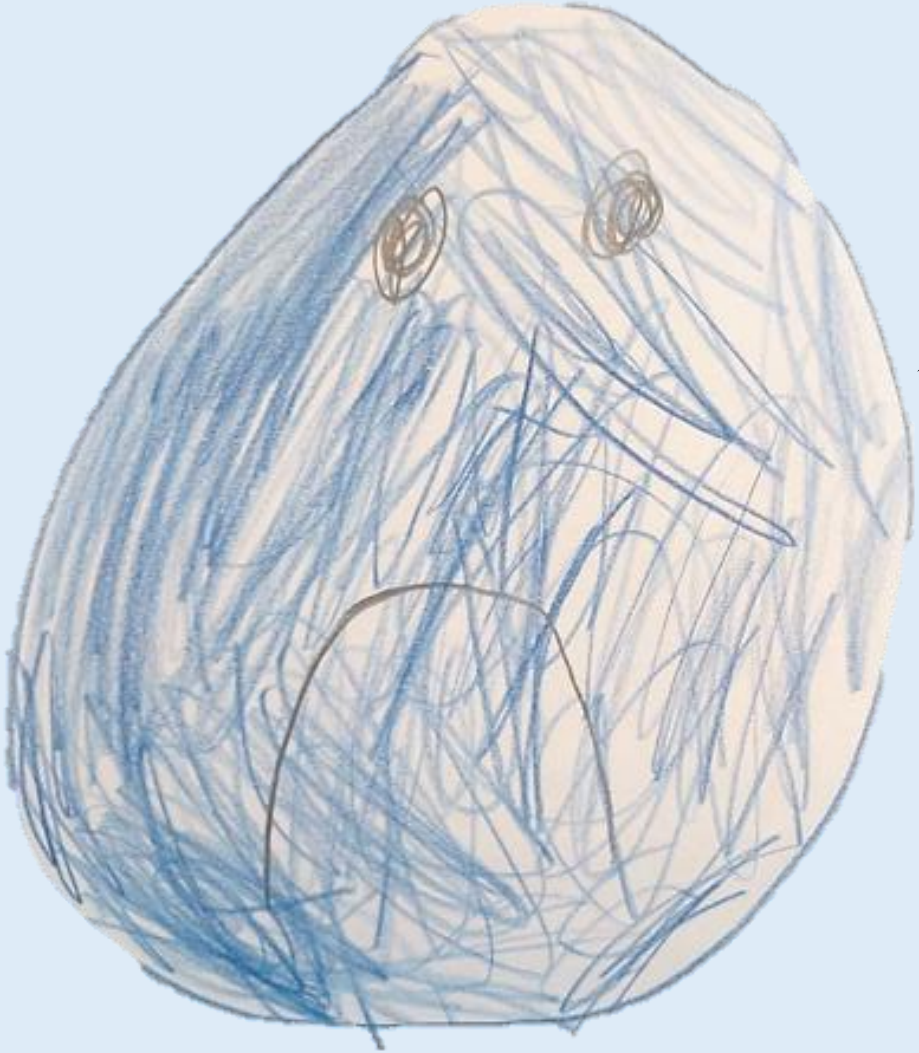
The scientists saw that the particles were arguing, so they stopped the ride.

They carefully took the neutron out and explained:

Neutrons can't race in the LHC because they don't have any charge. Protons have a positive charge

That's why the magnetic and electric fields in the LHC can make them zoom so fast. But neutrons are neutral—they don't have a charge—so the LHC can't make them race.

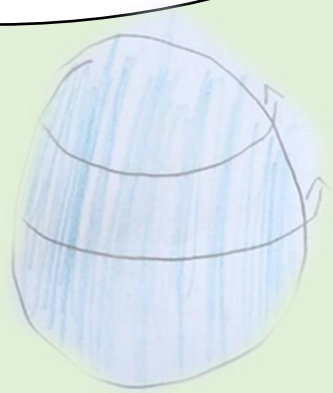
The neutron felt sad again.

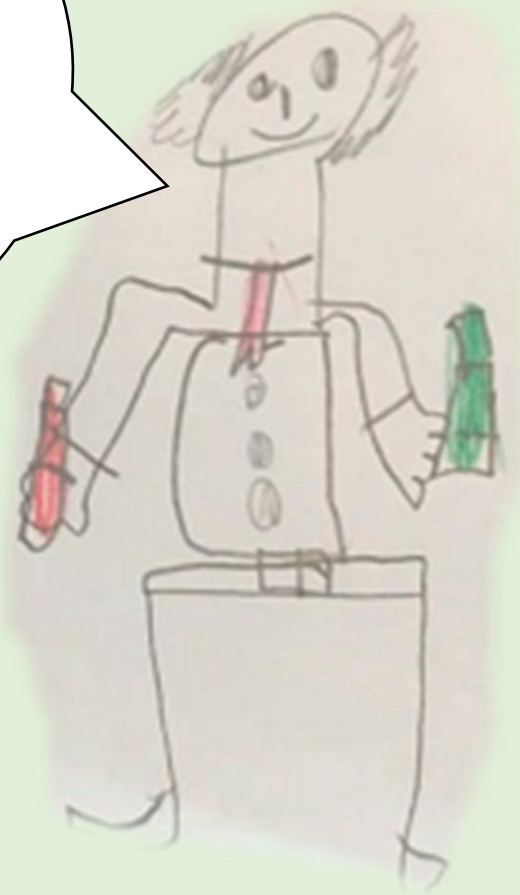


But I just want to have some fun…

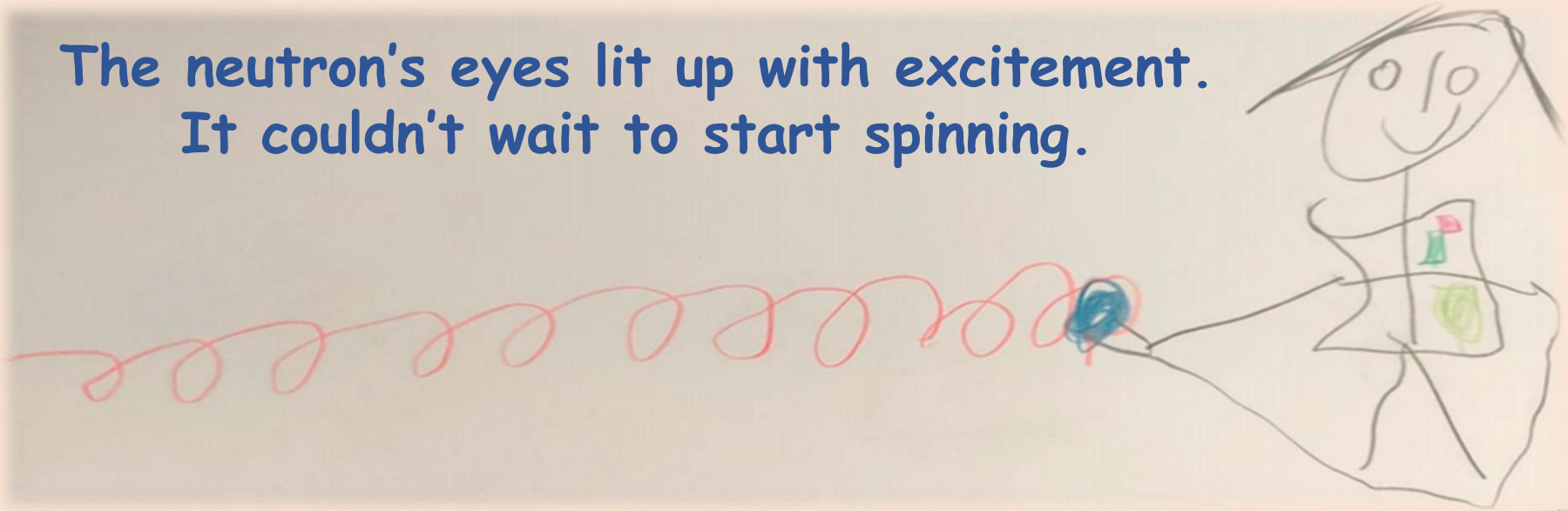
The scientists smiled and said:

We understand. It's not fair that the protons get to have all the fun, and you don't. But **YOU'RE SPECIAL IN YOUR OWN WAY!**
Neutrons have a tiny magnetic property, and we can use a magnetic field coil to make you SPIN!
Spinning can be so much fun!

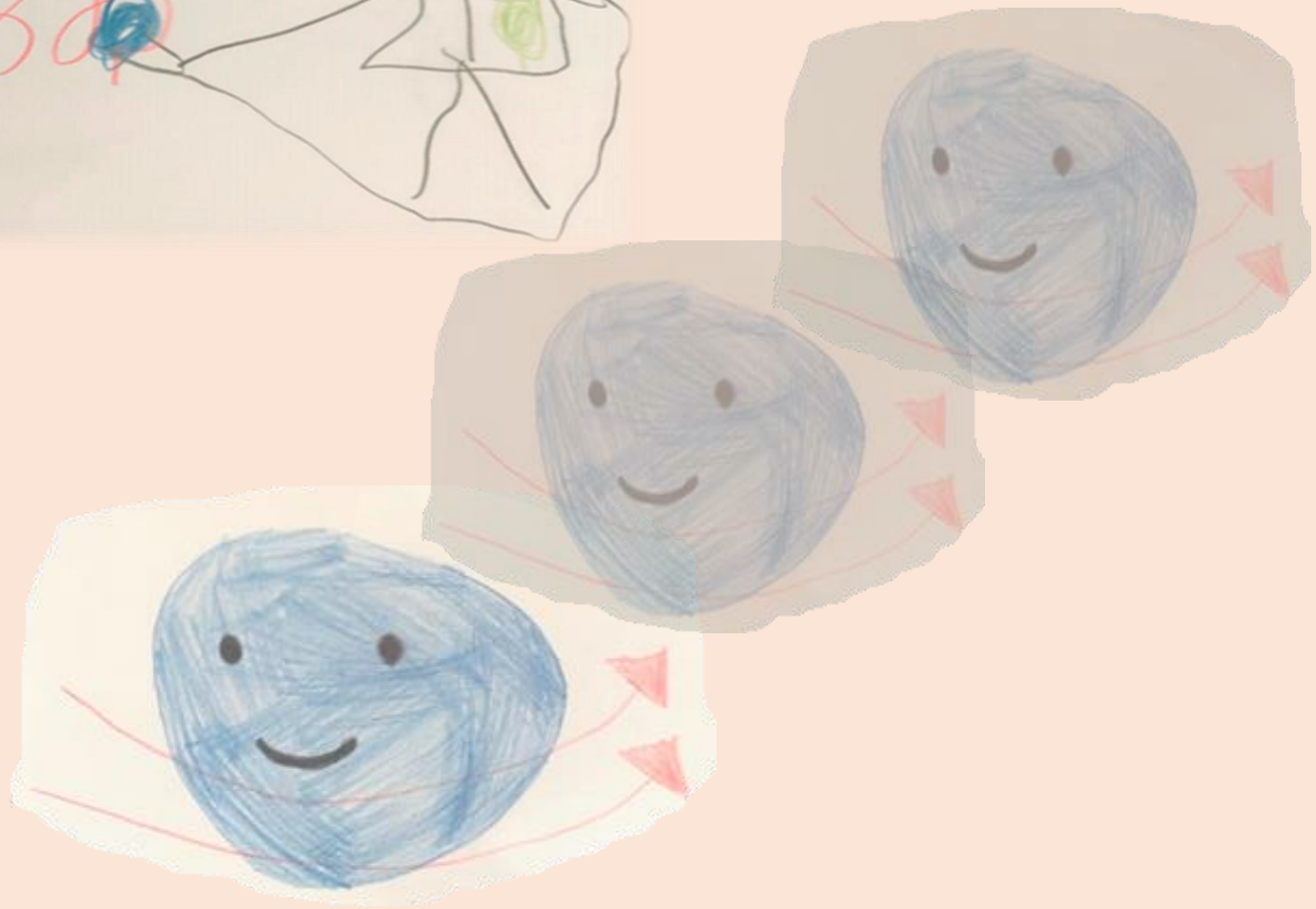




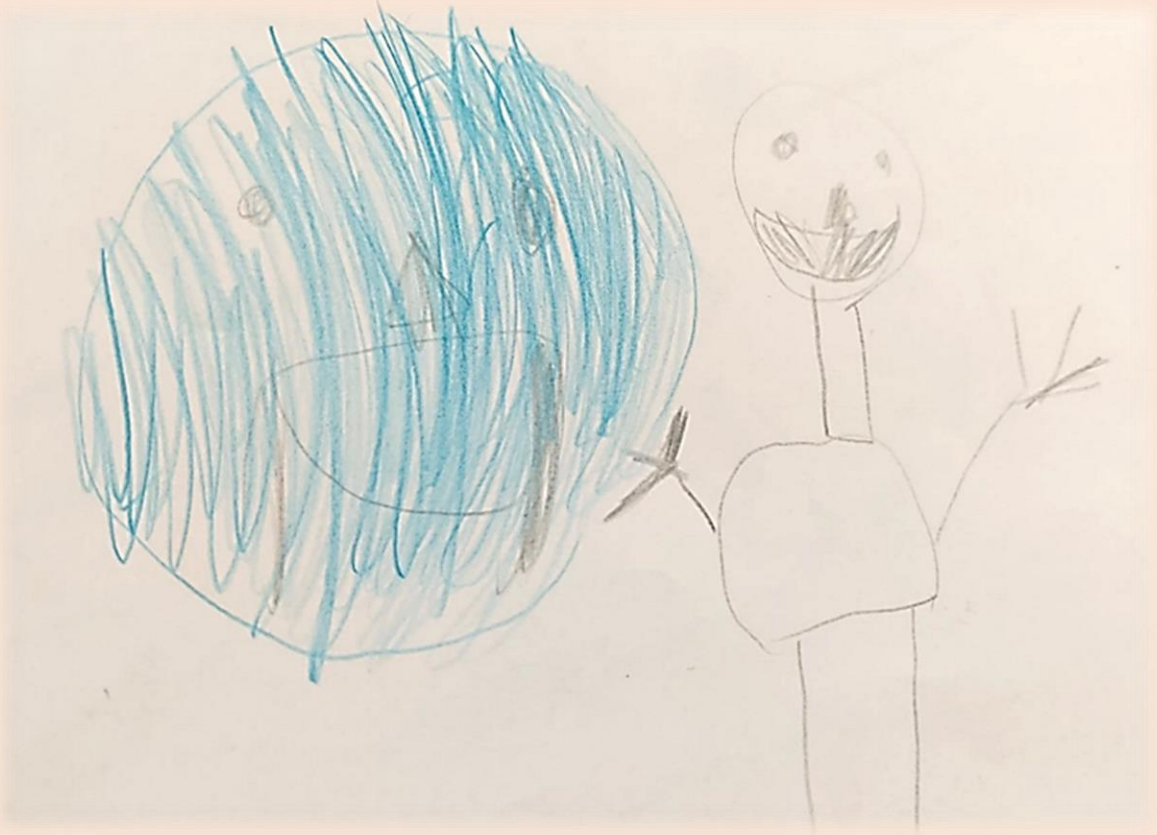
The neutron's eyes lit up with excitement.
It couldn't wait to start spinning.

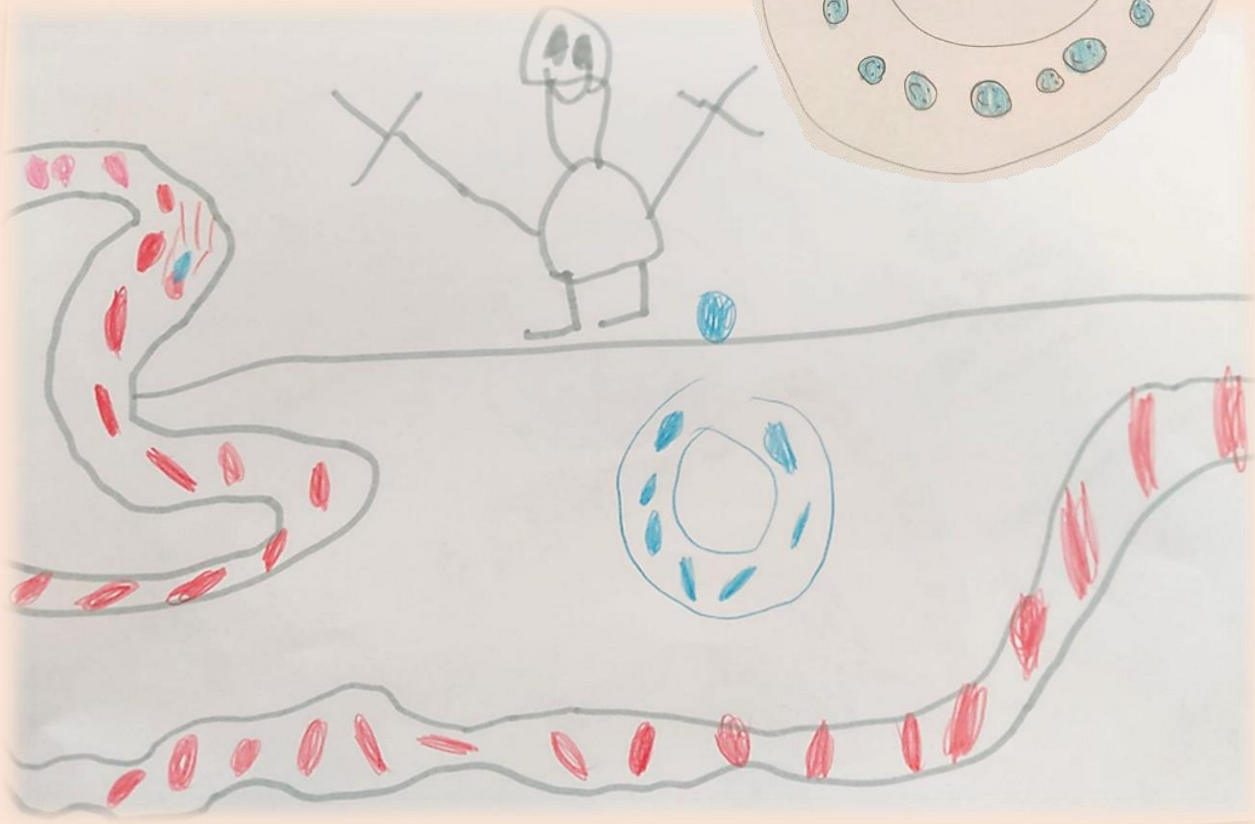


When the scientists set everything up, it worked perfectly! The neutron spun and spun, faster and faster. It loved every moment of it!



From then on, the neutron was happy and never felt jealous of the protons again.






THE END

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