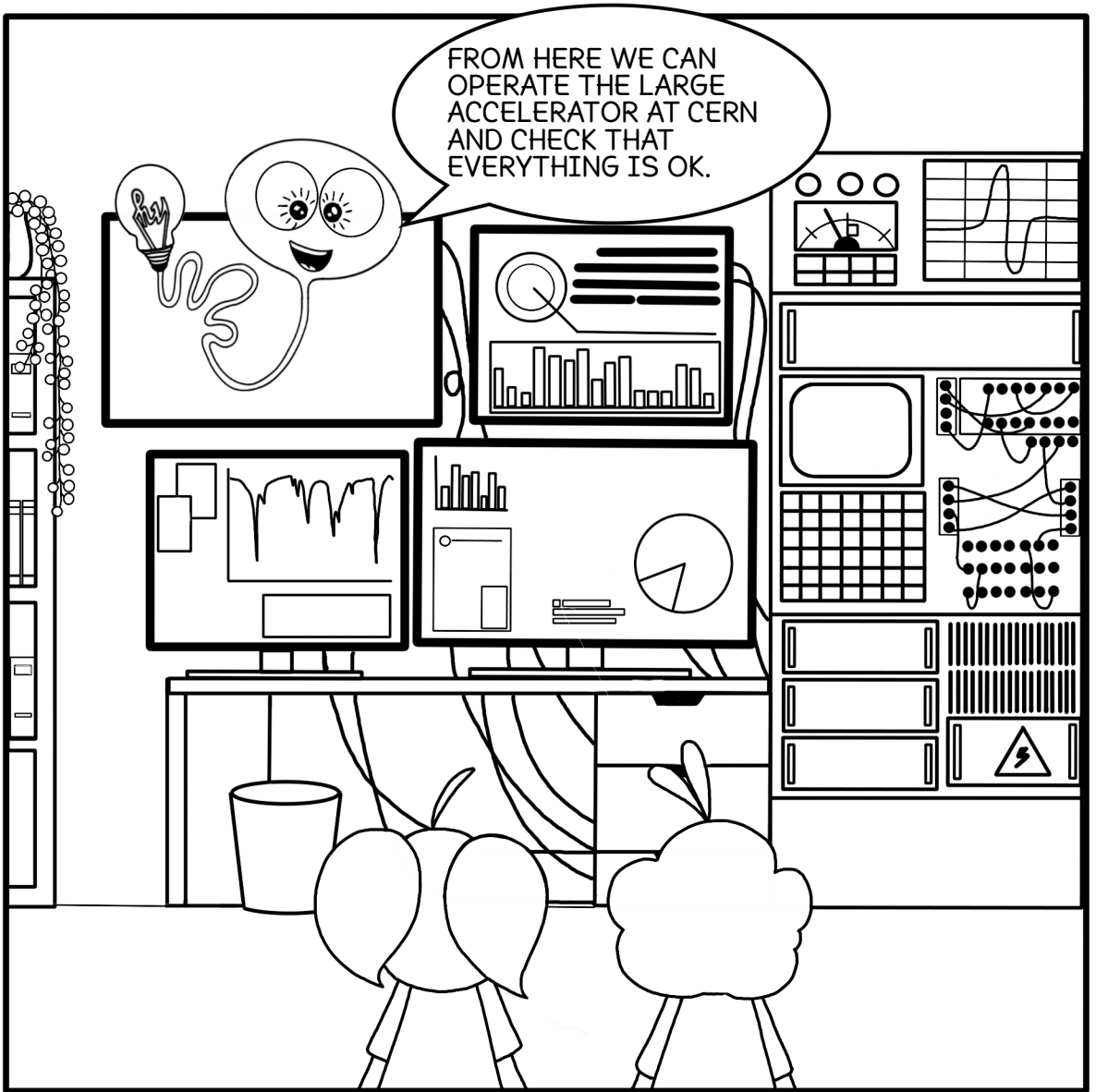
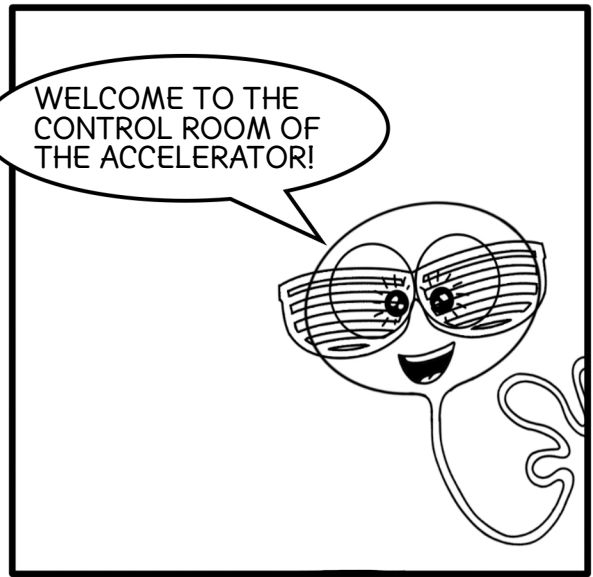
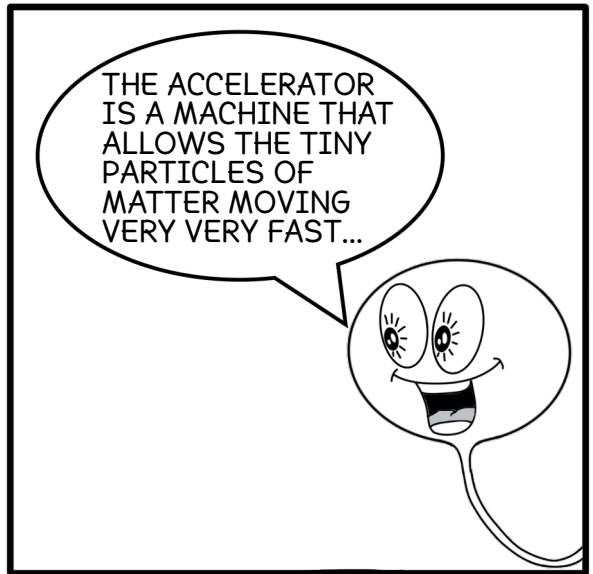


LEO, ALICE AND THE MISSING PARTICLES

EPISODE 2

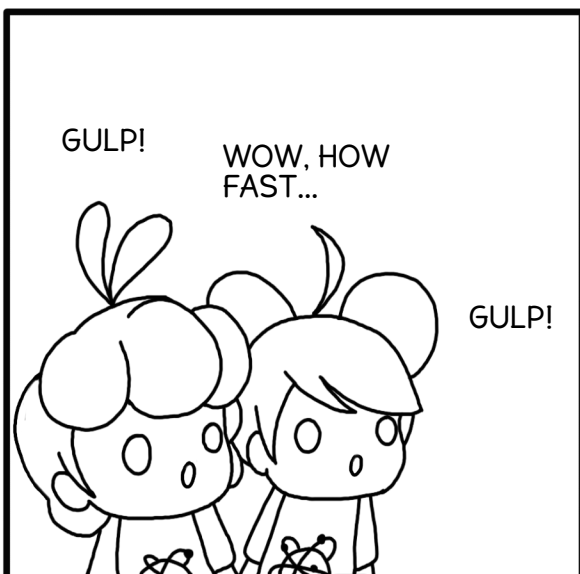




WE CAN IMAGINE AN ACCELERATOR AS A SORT OF SLINGSHOT, WHICH IS CAPABLE TO LAUNCH PARTICLES.

IN LHC, THE LARGE HADRON COLLIDER, THE LARGEST ACCELERATOR HERE AT CERN - THINK THAT IT HAS A CIRCUMFERENCE OF 27 KM! - PARTICLES SPIN AROUND LIKE IN A CAROUSEL AND MANAGE TO REACH VERY HIGH SPEED, ALMOST AS FAST AS THE SPEED OF LIGHT!

ALONG THE ACCELERATOR, THERE ARE POINTS WHERE THE PARTICLES CAN COLLIDE AND WE CAN STUDY WHAT HAPPENS.



TO DISCOVER WHICH PARTICLES TRAVEL IN THE LHC, FIND IN THE SCHEME THE WORDS WRITTEN BELOW.
COPY THOSE HIGHLIGHTED LETTERS THAT DO NOT BELONG TO ANY OF THE WORDS IN THE BLANK SPACES: YOU WILL FIND THE NAME OF THE PARTICLE.

T T O N H B N L L R N R R H U O R L
N T M O T A R O N D B U S P T L N L
N O U T O O E R U T N E V D A A I A
Y U L O N T G I C I I C B N M P L B
R C C H I R N C L N O I O E I S A O
E N S P C U P L E E B L I O I V E R
V S N A C C B I U T N A E Y A O C A
O I C E Y P H Y S I C S Q R I C O T
C I D L C U R E R N N Y C D N T N O
S T O E B A L L O O N Q T R S E Y R
I O V Y A C E D O R N C S N U H I Y
D O S E I O C R N T D C L T Y L O M
I O A T I E R H I U I Y R G L T H A
I O R I E K L E N E O I R L Y N R O
R A A O R R E L N N N E C N T Y D Y
P O E H O A O C A O N R O C E R N U
U O R C L U E C N E L E C T R O N O
A C E S N Q A N C E O Y D I E T I O

- ALICE

DECAY

PHOTON

BALLOON

PARTICLES
- ATOM

ELECTRON

IDEA

NEUTRINO

QUARK
- ADVENTURE

ENERGY

LABORATORY

NEUTRON

SCIENCE
- CERN

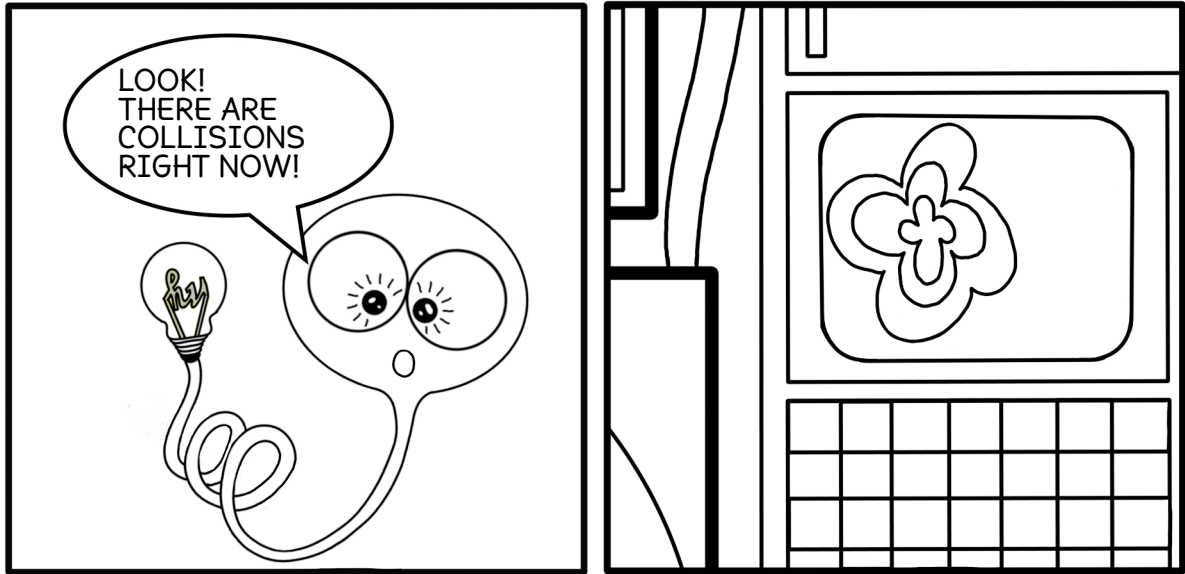
PHYSICS

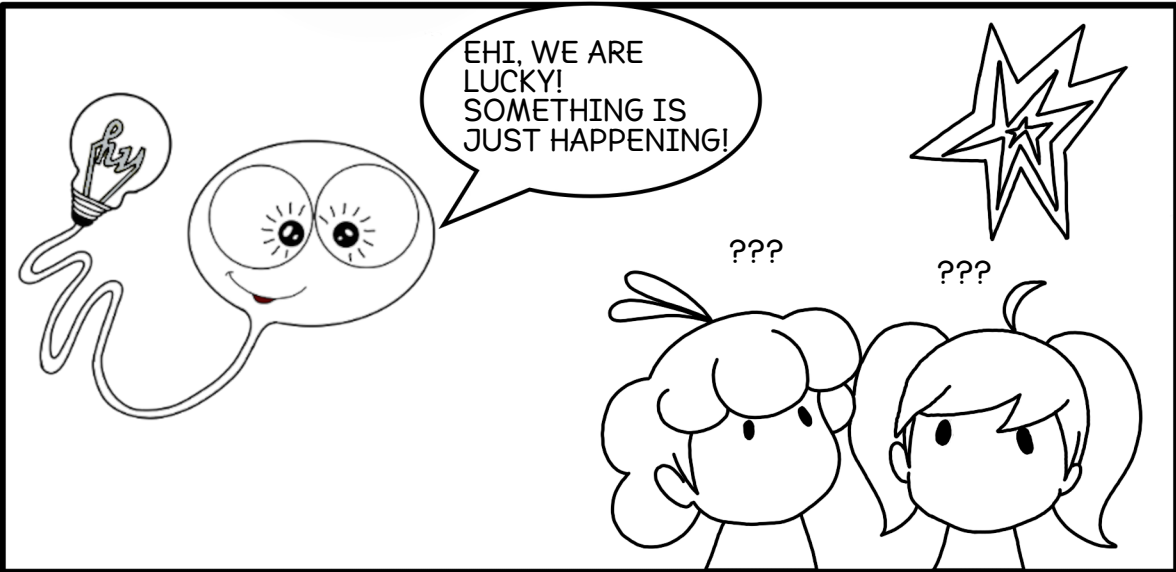
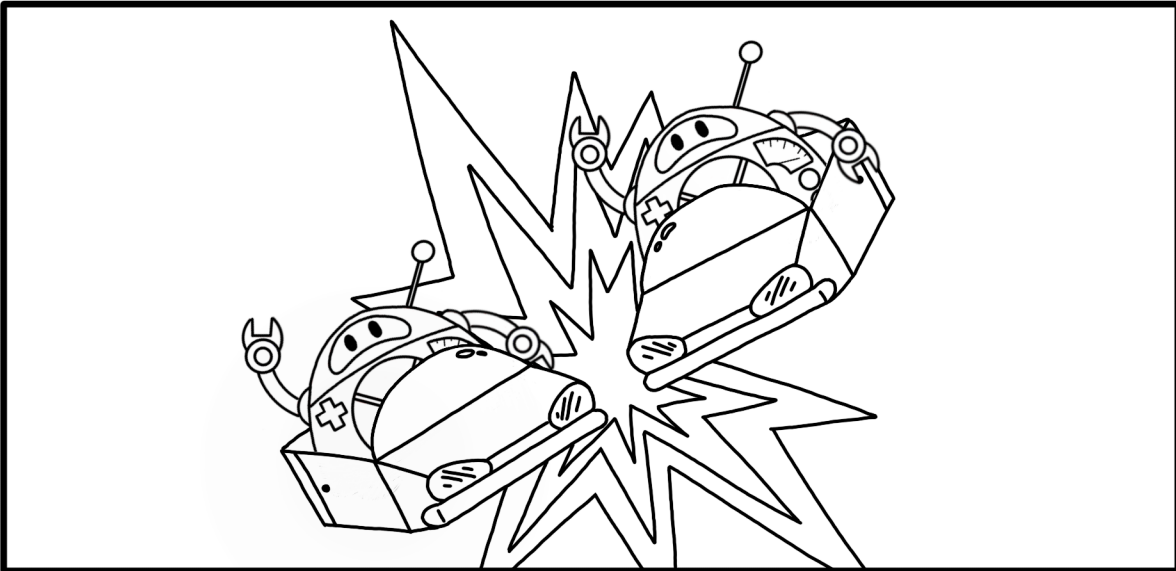
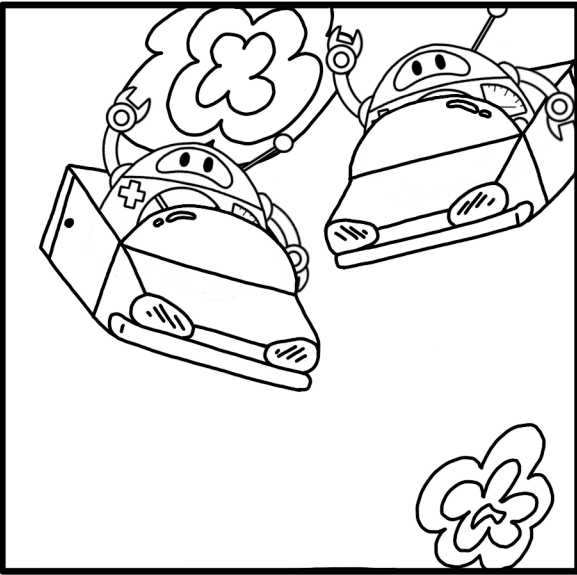
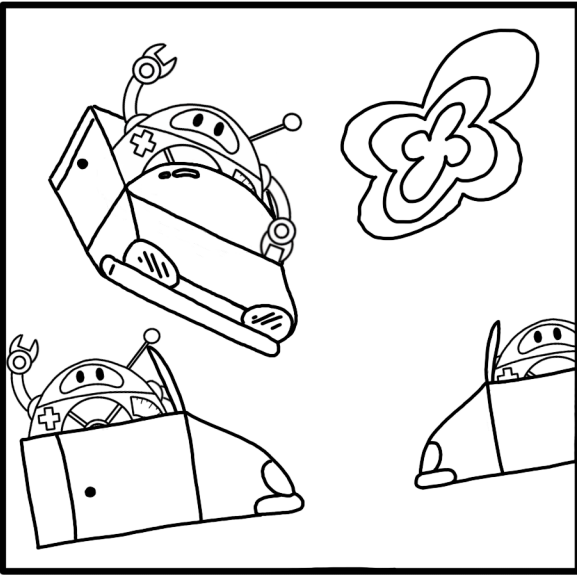
LEO

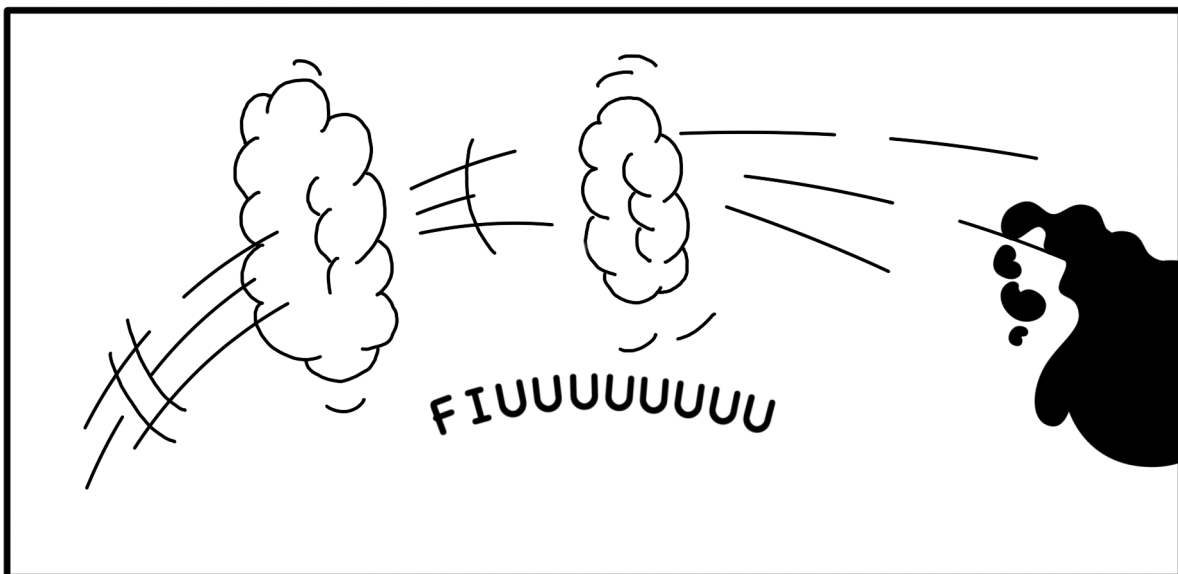
NUCLEUS

DISCOVERY

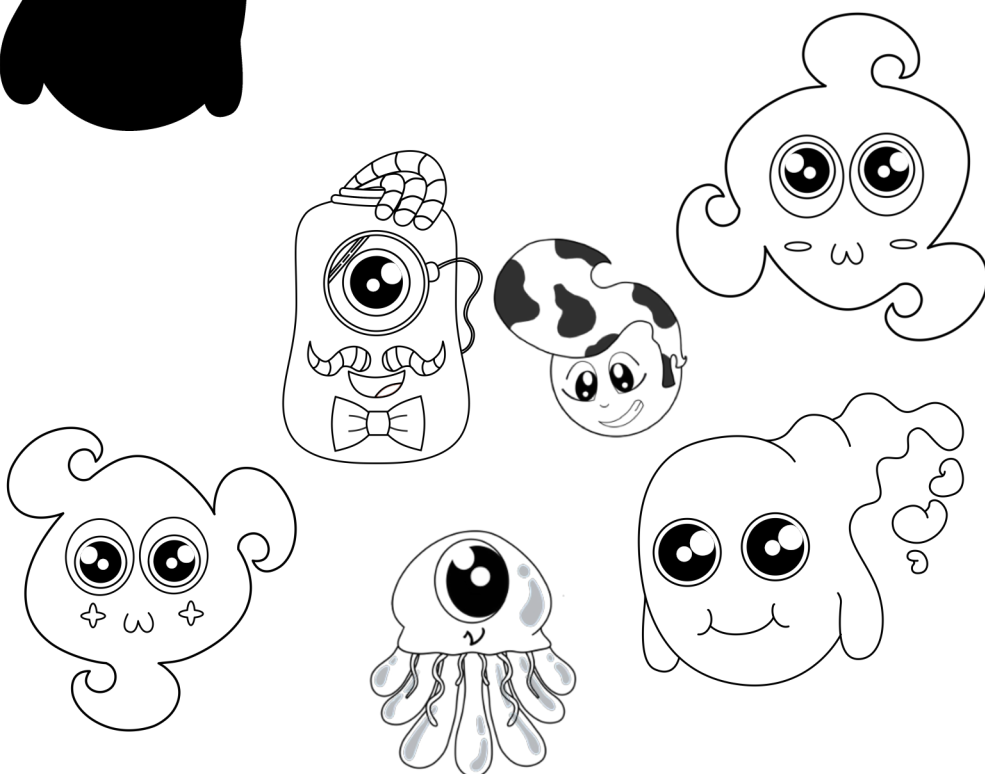
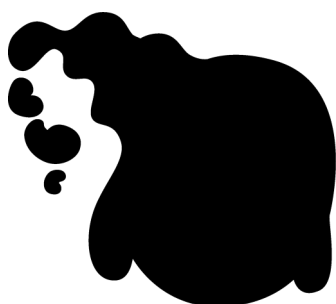
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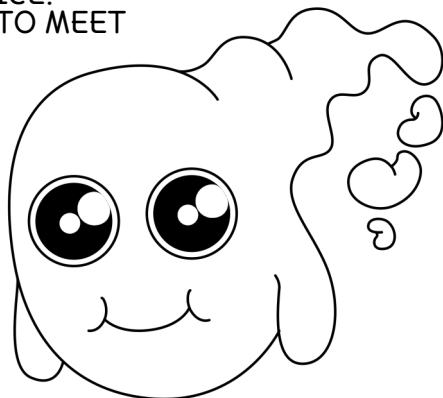




WAIT A SECOND, LEO AND ALICE CAUGHT A GLIMPSE OF SOMETHING...
 BUT WHAT WAS IT? A NEW PARTICLE OR AN OLD FRIEND?
 WHICH PARTICLE IS HIDING BEHIND THAT MYSTERIOUS SHADOW?
 HELP THEM FIND OUT: MATCH THE SHADOW TO THE RIGHT PARTICLE!



HI LEO,
HI ALICE!
NICE TO MEET
YOU!



THE HIGGS BOSON IS ONE OF THE
FUNDAMENTAL PARTICLES OF THE
SO-CALLED STANDARD MODEL.

IT IS VERY SPECIAL: IT IS
RESPONSIBLE FOR THE MECHANISM
THAT ALLOWS OTHER PARTICLES TO
HAVE MASS (ACTUALLY... ALMOST
ALL OF THEM!).

FOR MANY YEARS SCIENTISTS
FROM AROUND THE WORLD HAVE
STUDIED HOW TO FIND IT AND
FINALLY THE BOSON WAS
OBSERVED AT CERN IN TWO HUGE
EXPERIMENTS.

I HAVE TO GO...
I AM
TRANSFORMING...
BYEEEEEEEEEEEEEE!

BZZZ...

BZZZ...

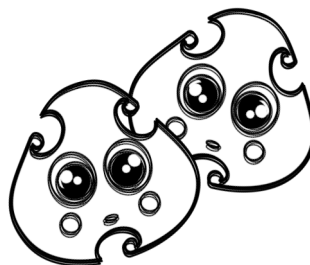
BZZZ...



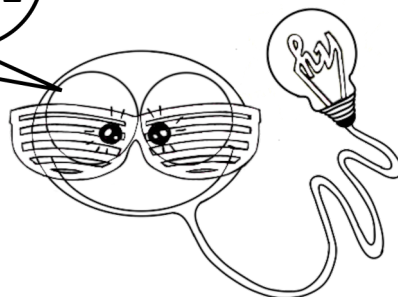
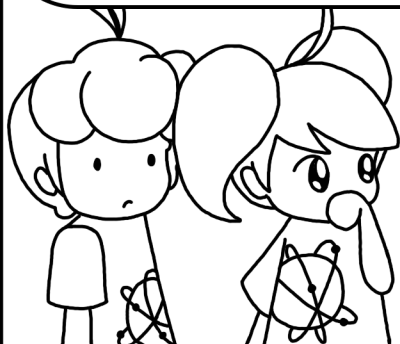
BZZZ...

BZZZ...

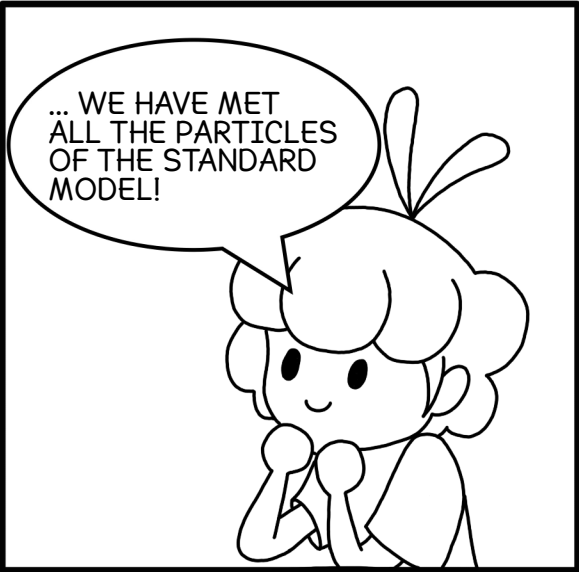
BZZZ...



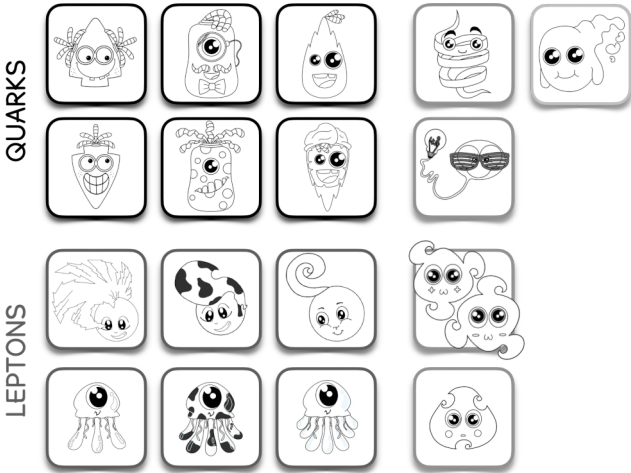
EH, EH, YOU LOOK A LITTLE PUZZLED....
AS WELL AS OTHER PARTICLES, THE HIGGS BOSON
TRANSFORMS VERY SOON AFTER ITS APPEARANCE.
IN SUCH TRANSFORMATION, NEW PARTICLES, AS Z^0
YOU HAVE JUST SEEN, CAN FORM*.



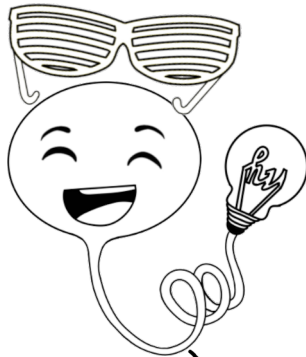
* Z^0 PARTICLES ALSO CHANGE JUST A SHORT TIME AFTER
THEY ARE CREATED.



THAT'S RIGHT: AFTER MANY ADVENTURES, LEO AND ALICE HAVE MET ALL THE PARTICLES THAT MAKE UP WHAT IS CALLED THE STANDARD MODEL: THIS MODEL DESCRIBES WHICH ARE THE SMALLEST BRICKS THAT FORM MATTER AND HOW THEY INTERACT WITH EACH OTHER.



FORCES CARRIERS



BUT NOW... IS IT ALL OVER?
NO!
THERE IS STILL MUCH TO STUDY
AND DISCOVER IN THE UNIVERSE!
SHALL WE KEEP DOING IT
TOGETHER WITH LEO AND ALICE?

