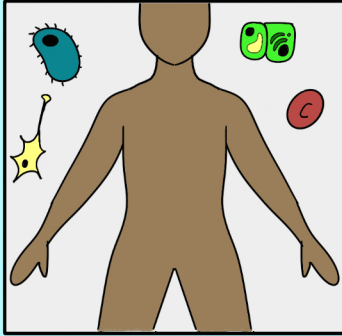


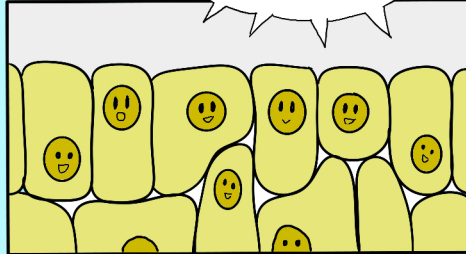
# HOW CELLS AVOID CRASHING INTO EACH OTHER: CONTACT INHIBITION OF LOCOMOTION

a comic inspired by the talk by Alba Diz-Muñoz

LIKE ALL LIFE ON EARTH, WE ARE  
MADE OF CELLS.

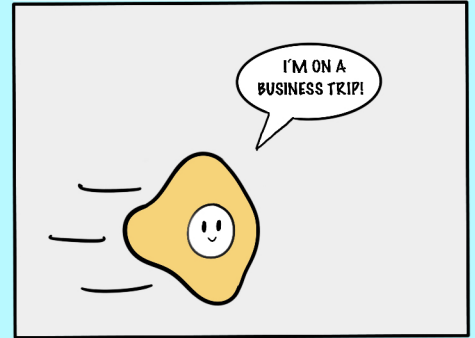


WE'RE WORKING TOGETHER  
AS ONE TISSUE!

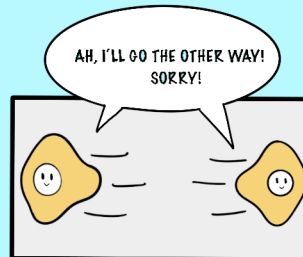
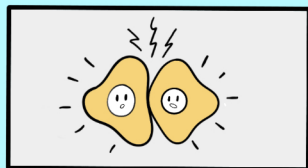
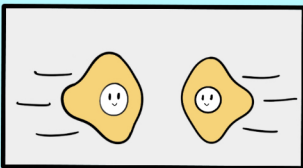


MULTICELLULAR LIFE FORMS LIKE US CONSIST OF MANY  
DIFFERENT TYPES OF CELLS. SOME OF THEM STAY IN  
PLACE, LIKE EPITHELIAL CELLS...

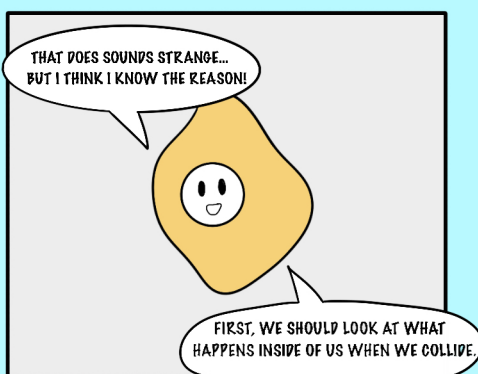
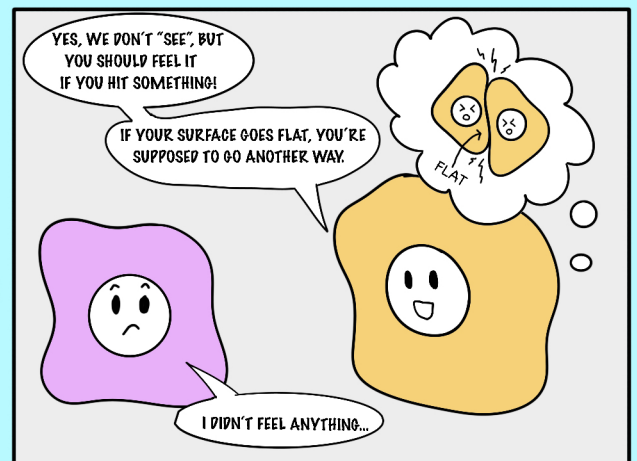
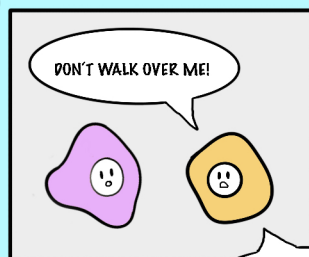
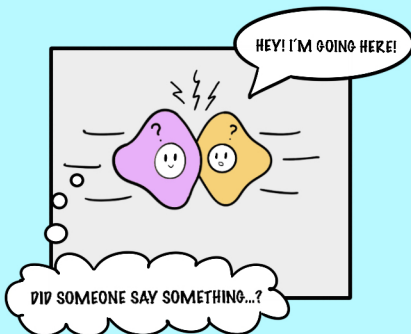
...WHILE OTHERS, LIKE IMMUNE CELLS, NEED TO MOVE  
AROUND OUR BODY TO DO THEIR JOB.



WHERE THERE IS A LOT OF "TRAFFIC", ACCIDENTS CAN HAPPEN...



...BUT WHAT IF SOMEONE DOES NOT MOVE OUT OF THE WAY?



THE SURFACE OF AN ANIMAL CELL IS A COMPOSITE:  
IT CONSISTS OF THREE DIFFERENT COMPONENTS  
THAT COME TOGETHER TO ACHIEVE A CERTAIN FUNCTION.



...THE PLASMA MEMBRANE IS THE  
"BORDER" OF THE CELL...

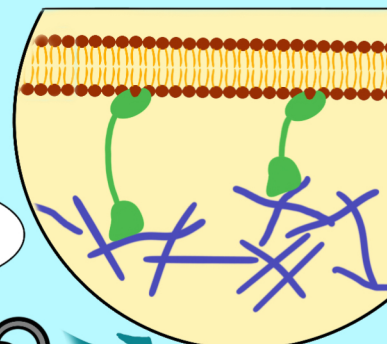
...THE ACTOMYOSIN CORTEX PLAYS A  
ROLE IN DETERMINING CELL SHAPE  
AND MEMBRANE BEHAVIOUR...



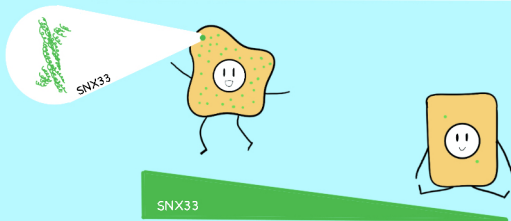
...AND THE MEMBRANE-TO-CORTEX ATTACHMENT  
(MCA) LINKER PROTEINS CONNECT THEM!



TAKE A CLOSER LOOK!

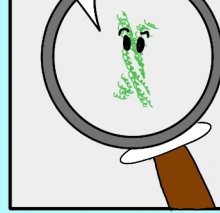


IN MIGRATORY CELLS, A SPECIFIC LINKER PROTEIN CALLED SNX33 (SORTING NEXIN 33) IS UP-REGULATED.

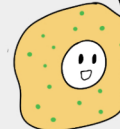


THAT MEANS MIGRATORY CELLS SHOW A LOT OF SNX33 EXPRESSION, WHILE OTHER CELLS THAT STAY IN ONE PLACE SHOW LESS.

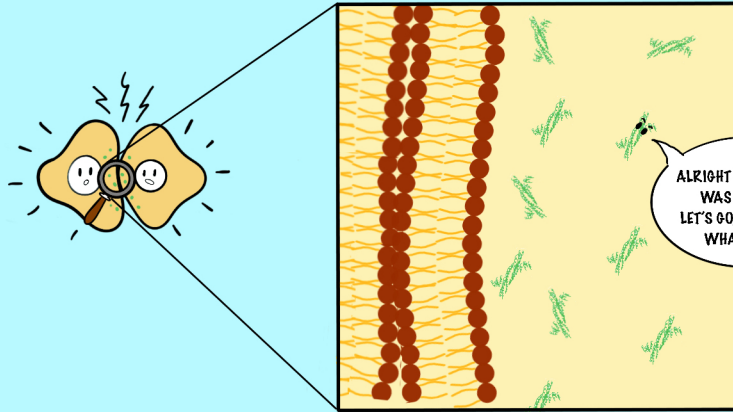
I HAVE MANY IMPORTANT TASKS, LIKE REORGANISING THE CYTOSKELETON OR HELPING DURING MITOSIS!



SEE ALL THIS SNX33 INSIDE OF ME? IT'S BECAUSE WE'RE MIGRATORY CELLS, TOO.



BUT WHY IS IT IMPORTANT FOR COLLISIONS?

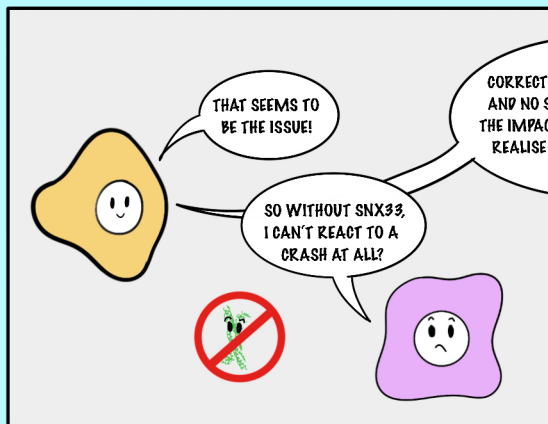
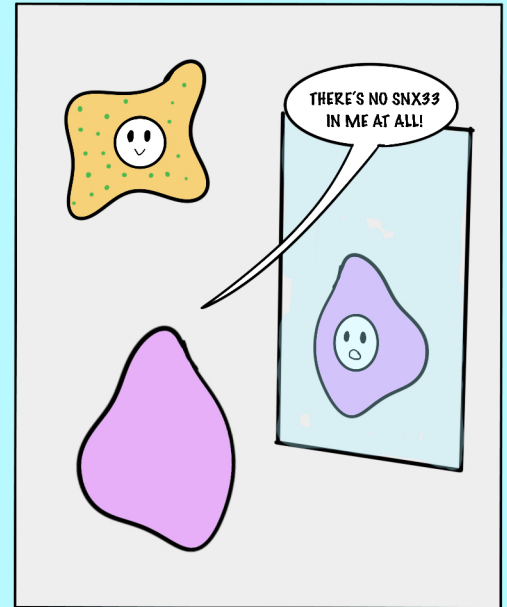


ALRIGHT GUYS, THERE WAS A CRASH! LET'S GO, YOU KNOW WHAT TO DO!

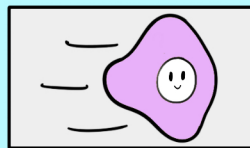


WHEN TWO CELLS CRASH, SNX33 WILL ACCUMULATE AT THE IMPACT SITE.

THAT'S HOW YOU KNOW YOU'VE HIT SOMETHING AND SHOULD GO THE OTHER WAY.

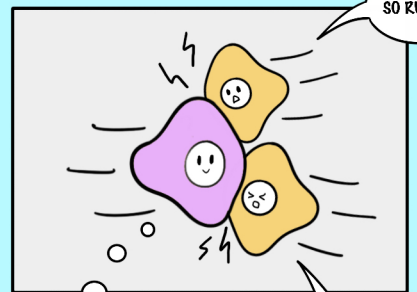


CORRECT! IF YOU HIT SOMETHING AND NO SNX33 ACCUMULATES AT THE IMPACT SITE, YOU WON'T EVEN REALISE THAT YOU NEED TO GO ANOTHER WAY.



YOU'LL JUST KEEP GOING...

...NO MATTER HOW MANY CELLS ARE IN YOUR WAY.



THIS PATH SURE IS ROCKY...