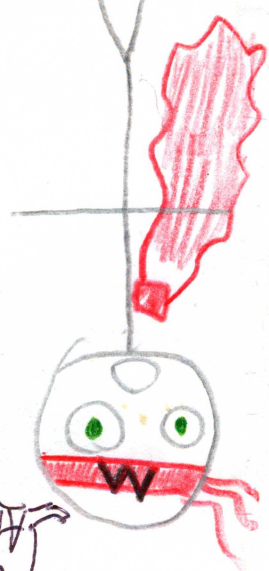
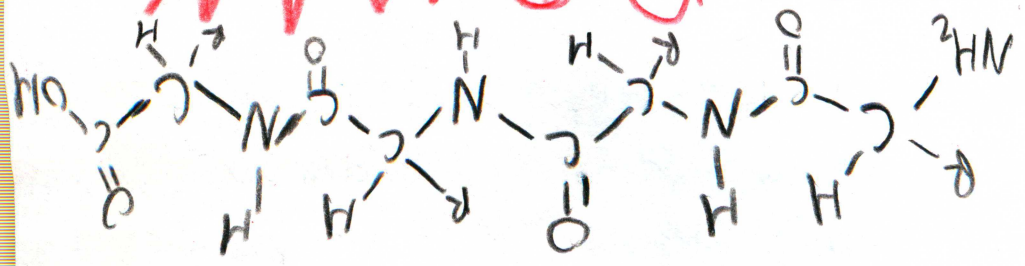


Who are you?  
 And what are  
 you doing in  
 cellcity



The protein pursuit

# MACROMAN

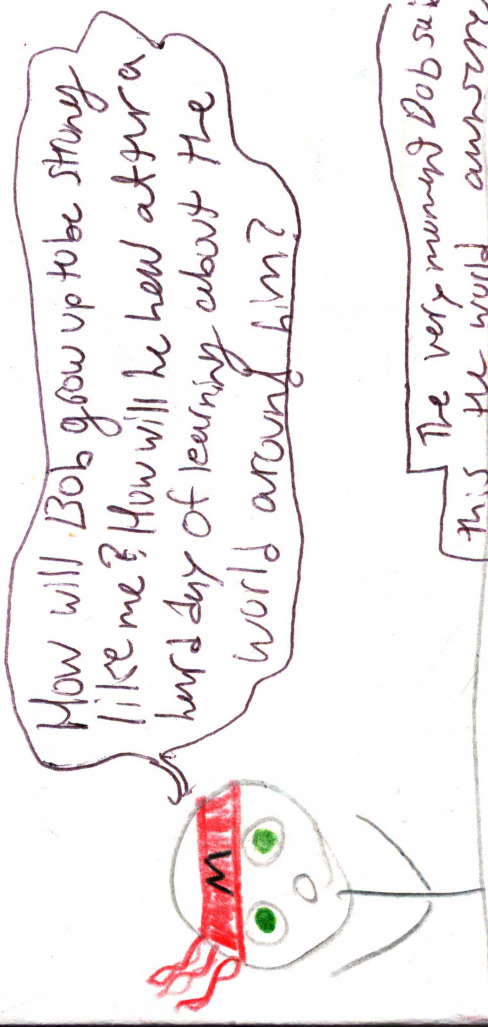


⚡  
 F + Professor  
 Amino

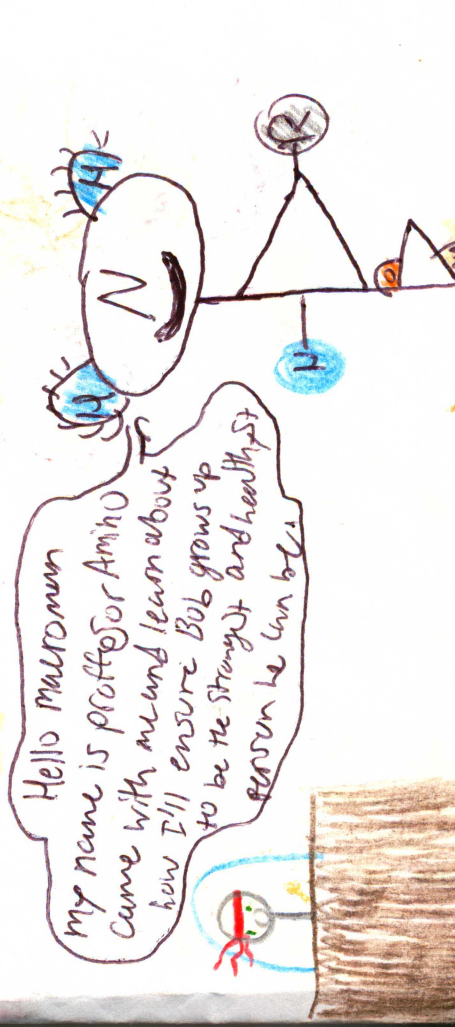
2) (Background) If you missed our last adventure - "Macroman Powered by Carbs" You may be a bit confused as to who our hero is, Macroman is a miniature hero who works to protect cell city. What he and the other inhabitants call "cell city" is really just the human body, or more specifically Bob, who is only a few days old. Macroman is on a mission to learn about all the <sup>cuties</sup> macromolecules in cell city, to ensure that BOB grows up to be a healthy adult.



3) It was day 5 of Bob's and therefore macromans and the whole of Cell City's life out of the womb, and macroman had already begun to worry about the future.



4) The very moment Bob said this the world answered suddenly macroman's office was lit up in a blinding light and by the time he could open his eyes again a macro molecule stood before him.



5) Macromern takes professor Amino by the hand -  
 oruh, Hydrogen - and is whisked away to what appeared  
 to be a college classroom. He and professor Amino  
 stood in the front of the room and the rows of seats before  
 them were full of proteins who - though similar in the  
 majority of their building chains of amino acids,  
 would differ in their R groups.

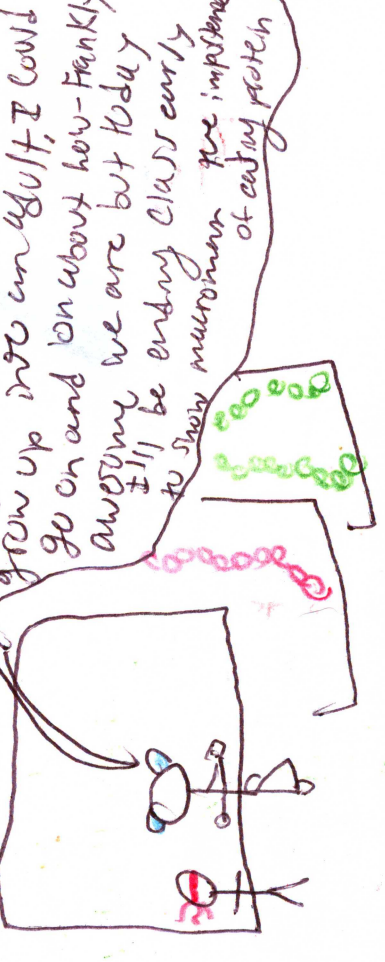


6) After a brief introduction for macromern, Professor Amino  
 began with her lecture.

Hello protein - today's class will be  
 focused on what we do - and how we  
 make Cell City thrive. To begin, as  
 you all know we are all complex, so complex  
 in fact that we are made up of a long  
 chain of Amino acids, containing hydrogen  
 Carbon, Nitrogen and Oxygen, we have  
 a variety of jobs in cell city - jobs  
 we are each uniquely built for



7) The Antibody proteins protect cell city from  
 unwanted substances. Enzymes help to  
 speed up the chemical reactions in our bodies.  
 There are also many different types of protein. Hormones  
 for example. Growth hormones are a type of protein  
 hormone and little bob will need a lot of it to  
 grow up into an adult. I could  
 go on and on about how - frankly -  
 awesome we are but today  
 I'll be ending class early  
 to show macromern the importance  
 of eating protein.



8) And just like that with all this new  
 information still swirling around macromern's  
 head there was suddenly a bright flash of  
 blinding light.



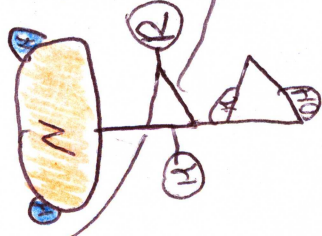
Flash

9 When the light had cleared and Malcolm could see again he took in their surroundings the Spherical office!!!

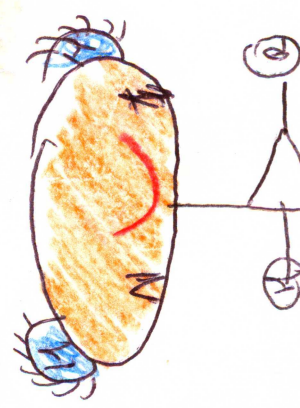
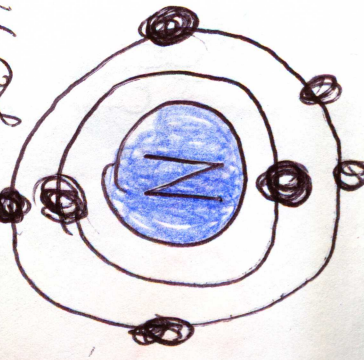
Sorry to cut the lecture short but as Bob is being held in the kitchen right now I thought it would be the perfect time to talk to you about why it is - and will continue to be important for Bob to have a diet rich in protein.

\* Note the spherical office is a completely made up office for our macromolecule characters which is located in Bob's eye allowing them to see what is seen.

10 As I discussed previously protein has 500 many different jobs in the body. I know you have concerns with Bob's future strength and healing abilities so trying to focus on proteins roles in those categories.



12 One of the reasons that protein is so essential in our bodies is - that it is the only way we can get Nitrogen which is an extremely important element in our bodies. Nitrogen is important in so many processes from protein synthesis to digestion.



13

Interesting... but I still don't see how that will make Bob strong and resilient



14

You can think of protein as the building block of your muscles. When you have dietary protein your body breaks it down to Amino Acids, which are used to create more proteins and repair promote damaged muscles. And to promote larger muscles.



6 hrs muscle  
protein

Card's chicken



Muscles Stronger?

Chicken  
100g

15

That sounds pretty epic!  
So how much protein will Bob need every day to stay strong and healthy?



well, that depends protein needs differ widely between people based upon their body mass, body composition and lifestyle.



If Bob becomes an adult with an active lifestyle who routinely breaks down his muscle with lots of intense exercise he will have much higher protein needs than a sedentary Bob.

16

### Future BOBs

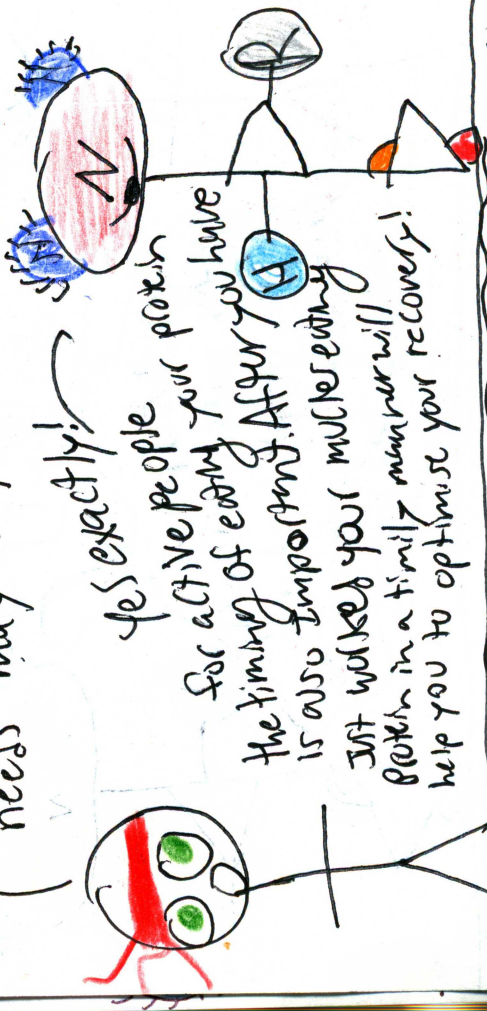


If Bob becomes an adult with an active lifestyle who routinely breaks down his muscle with lots of intense exercise he will have much higher protein needs than a sedentary Bob.

Protein...  
100000



17 OK I get it - protein is essential for everyone but depending on your lifestyle your ~~nutritional~~ protein needs may vary.



yes exactly!  
 for active people the timing of eating your protein is also important. After you have just walked your muscles will protein in a timely manner will help you to optimise your recovery!

18 Wow! ~~that~~ I have one more question - Is all dietary protein equal? Or are there some types better than others?



Im so glad you asked!

sudden? a blinding flash of light fills room

To be continued

# SOI N = MACROMAN

and

# PROFESSOR AMINO

Next time on

The quest for the essential Aminos

Editors note: The content of all Macroman stories is simplified for educational purposes. Many creative liberties were taken in this story for instance Macromolecules and Amino Acids can't spend