

# THE INCREDIBLE IMMUNE SYSTEM

AMONG THE MOST DANGEROUS ENEMIES WE HUMANS FACE ARE OUR OWN DISTANT RELATIVES: MICROBES. NO HUMAN CAN WITHSTAND THEIR ONSLAUGHT UNPROTECTED. WE SURVIVE ONLY BECAUSE OF OUR BODIES' DEFENSE SYSTEM AGAINST THEIR CONSTANT ATTACK: THE IMMUNE SYSTEM.

LET'S SAY A PERSON CUTS THEIR FINGER, THE IMMUNE SYSTEM TAKES ACTION!



LET'S ZOOM IN!

THIS CUT EXPOSES THIS PERSON TO DANGEROUS PATOGENS AND INFECTIONS!

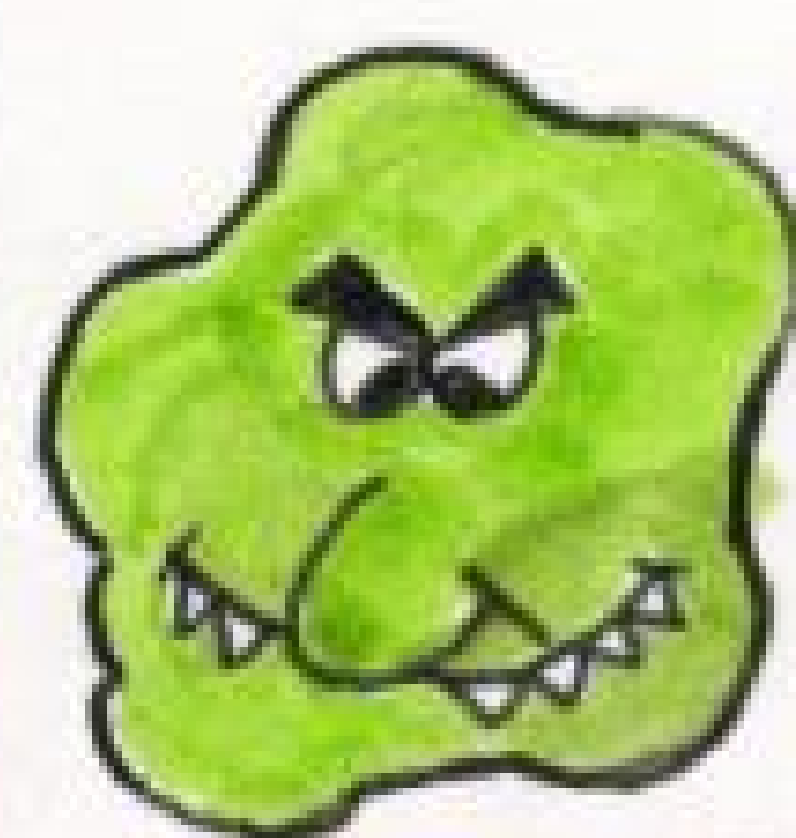
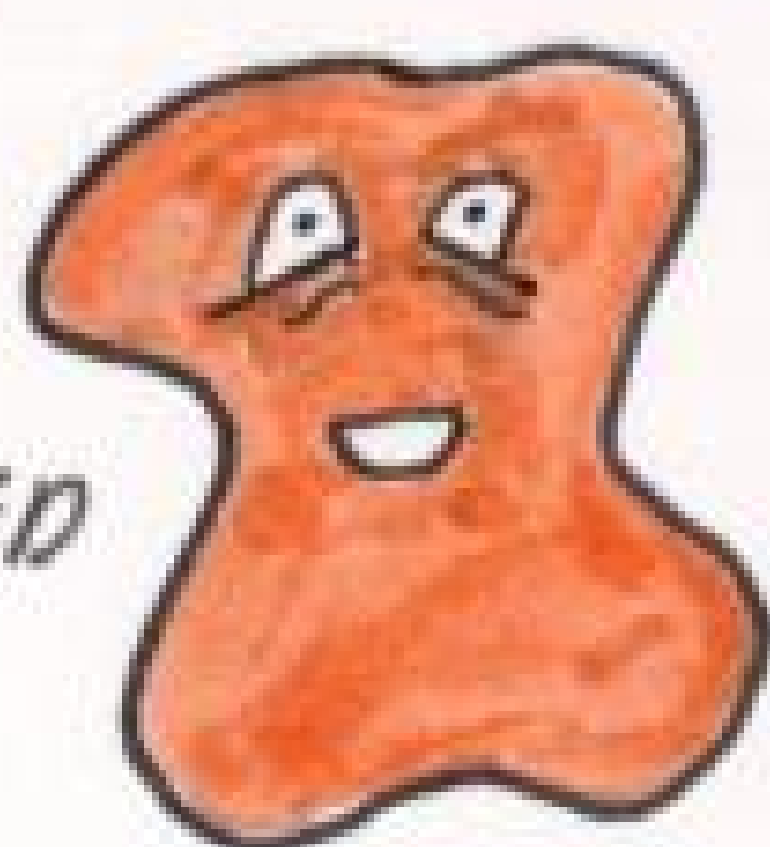
AROUND THIS CUT, THERE ARE MANY CAPILLARIES: HOME TO THE CELLS OF THE IMMUNE SYSTEM.



EACH CAPILLARY ENLARGES, AND THE CELLS WITHIN PREPARE TO FIGHT!



THE EVIL PATHOGENS HAVE ENTERED THE BODY



BUT THE MACROPHAGES ARE READY TO FIGHT!

HEEY!

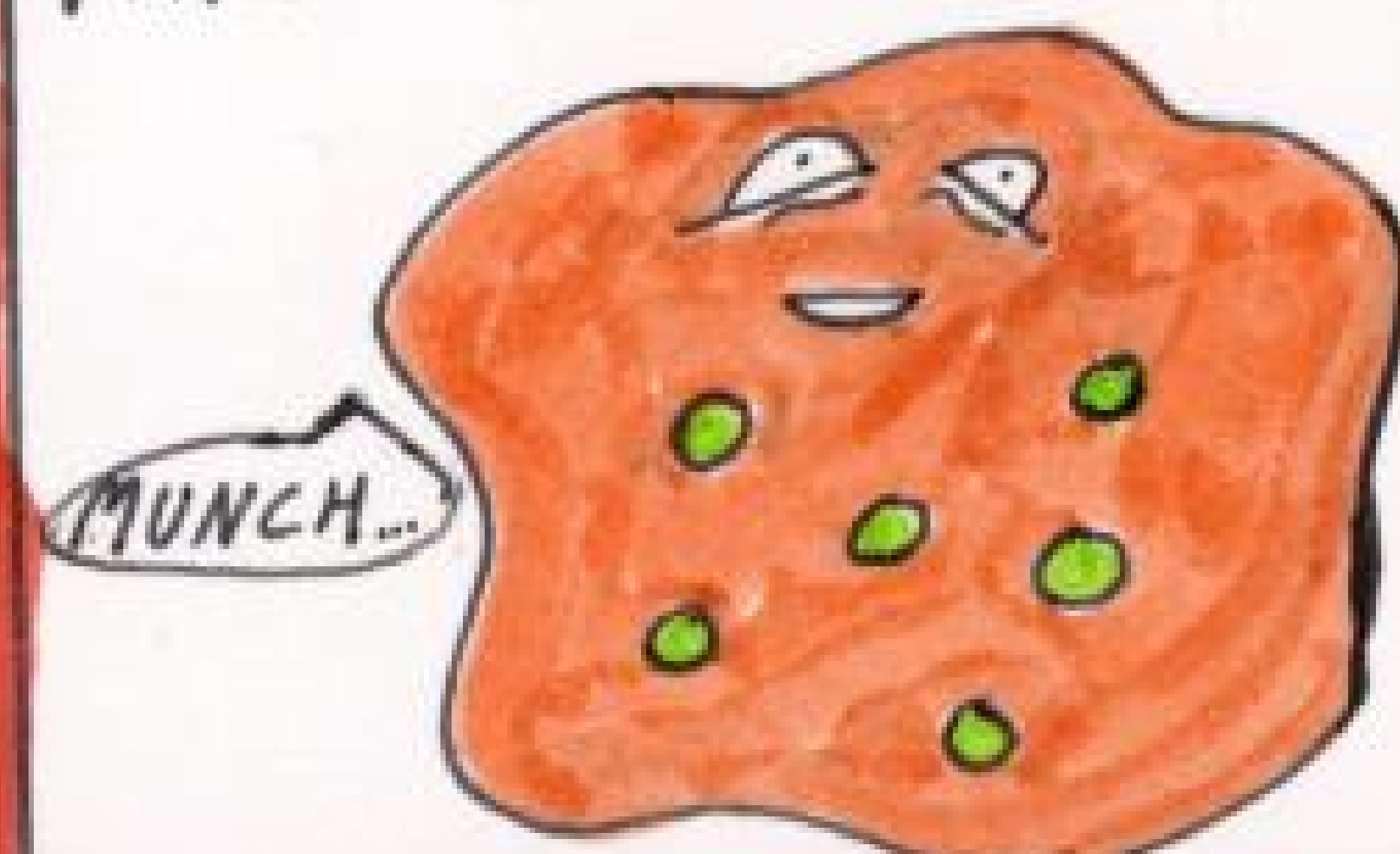


THE MACROPHAGE GRABS AND ENGULFS THE PATHOGEN!

GULP

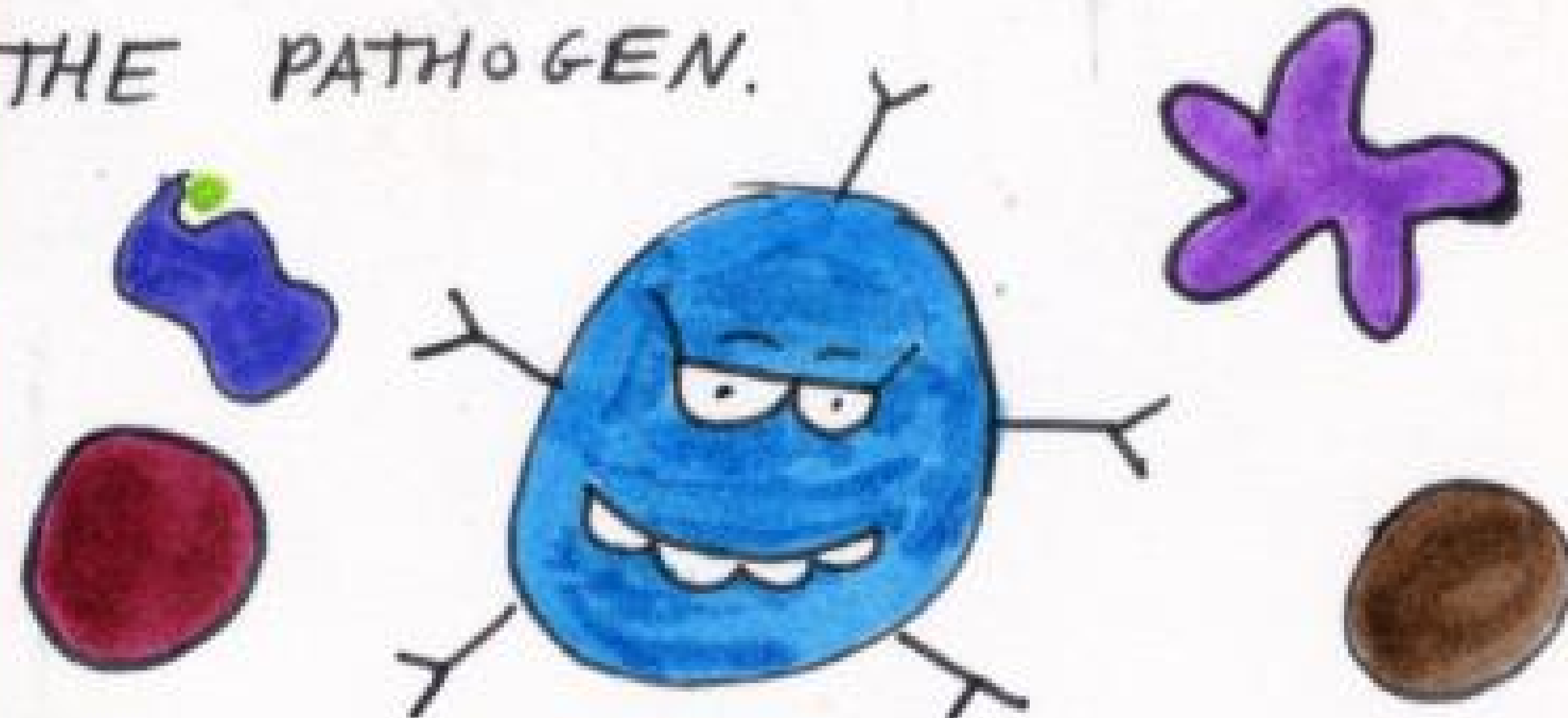


THE MACROPHAGE BREAKS THE PATHOGEN DOWN INTO SMALL PIECES. THE PATHOGEN HAS BEEN DESTROYED!



MUNCH...

MANY OTHER TYPES OF CELLS ALSO ENGULF AND DEGRADE THE PATHOGEN.



MOST IMPORTANTLY: B-CELLS!

B-CELLS ENGULF AND DEGRADE THE PATHOGEN TOO.



I'M COMING FOR YOU!

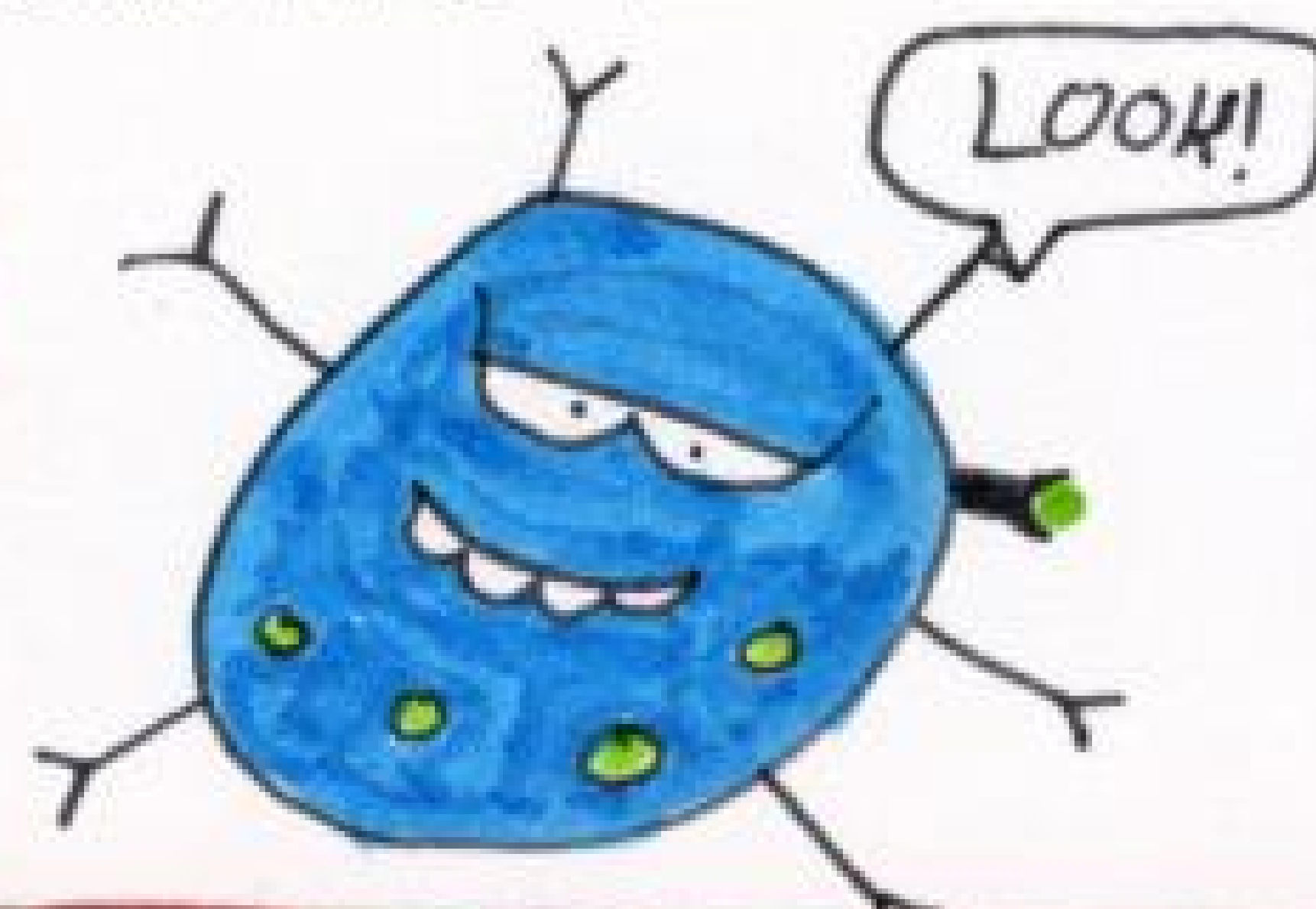


I SEE YOU!

I SAVED THE HUMAN FROM INFECTION!



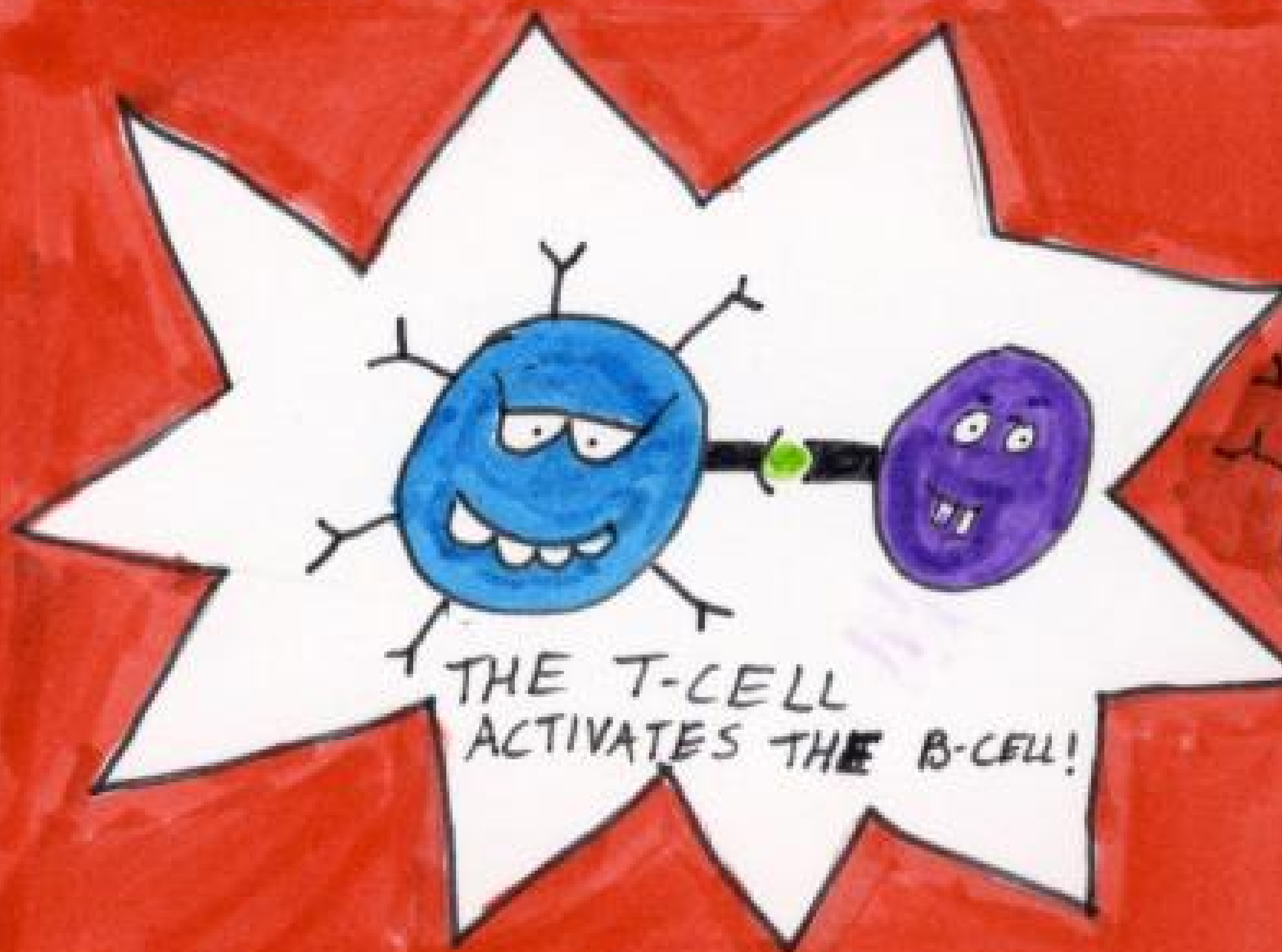
THE B-CELL BREAKS THE PATHOGEN INTO PIECES. IT THEN BRINGS THE PIECES TO THE SURFACE TO SHOW A T-CELL.



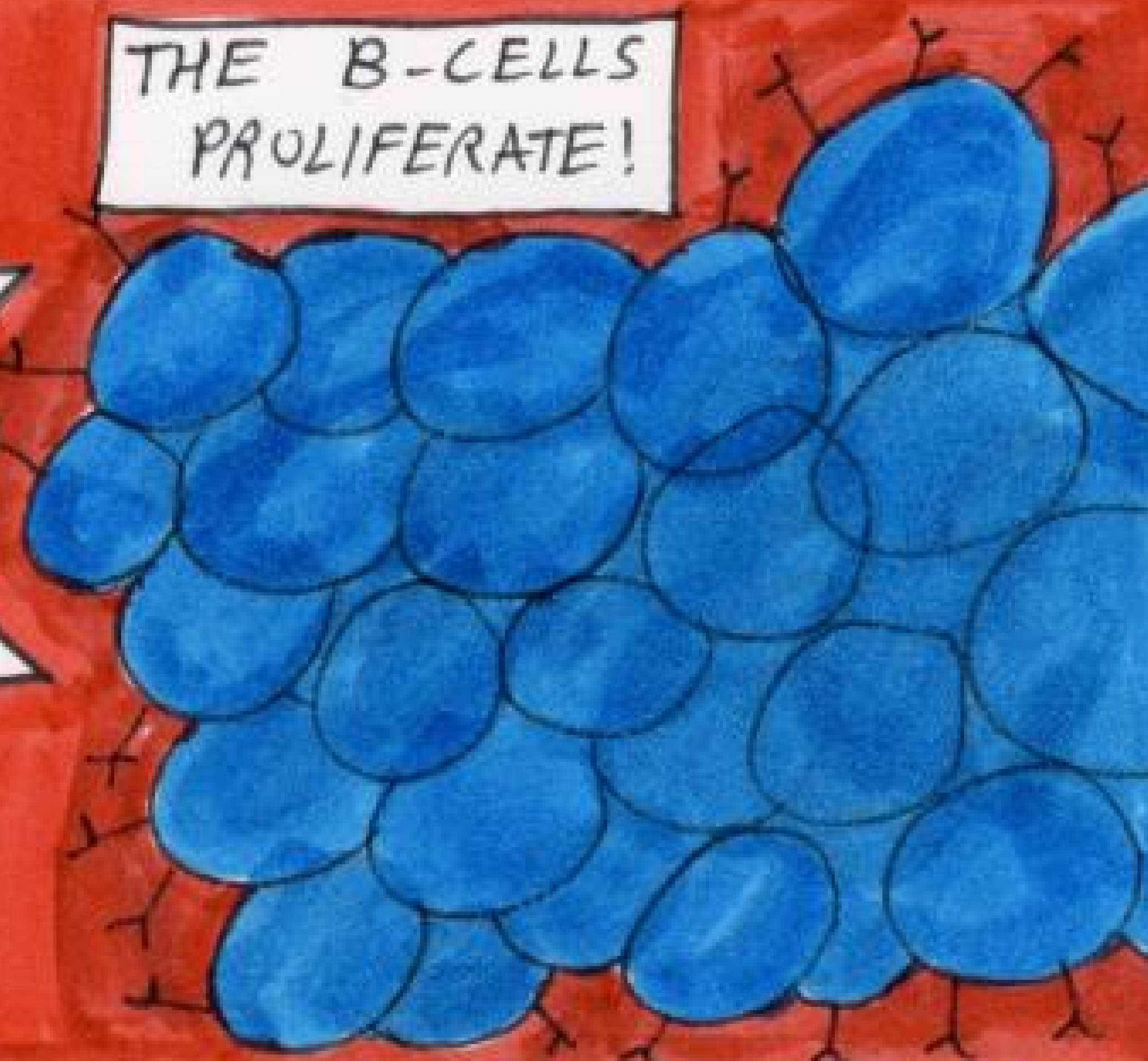
LOOK!



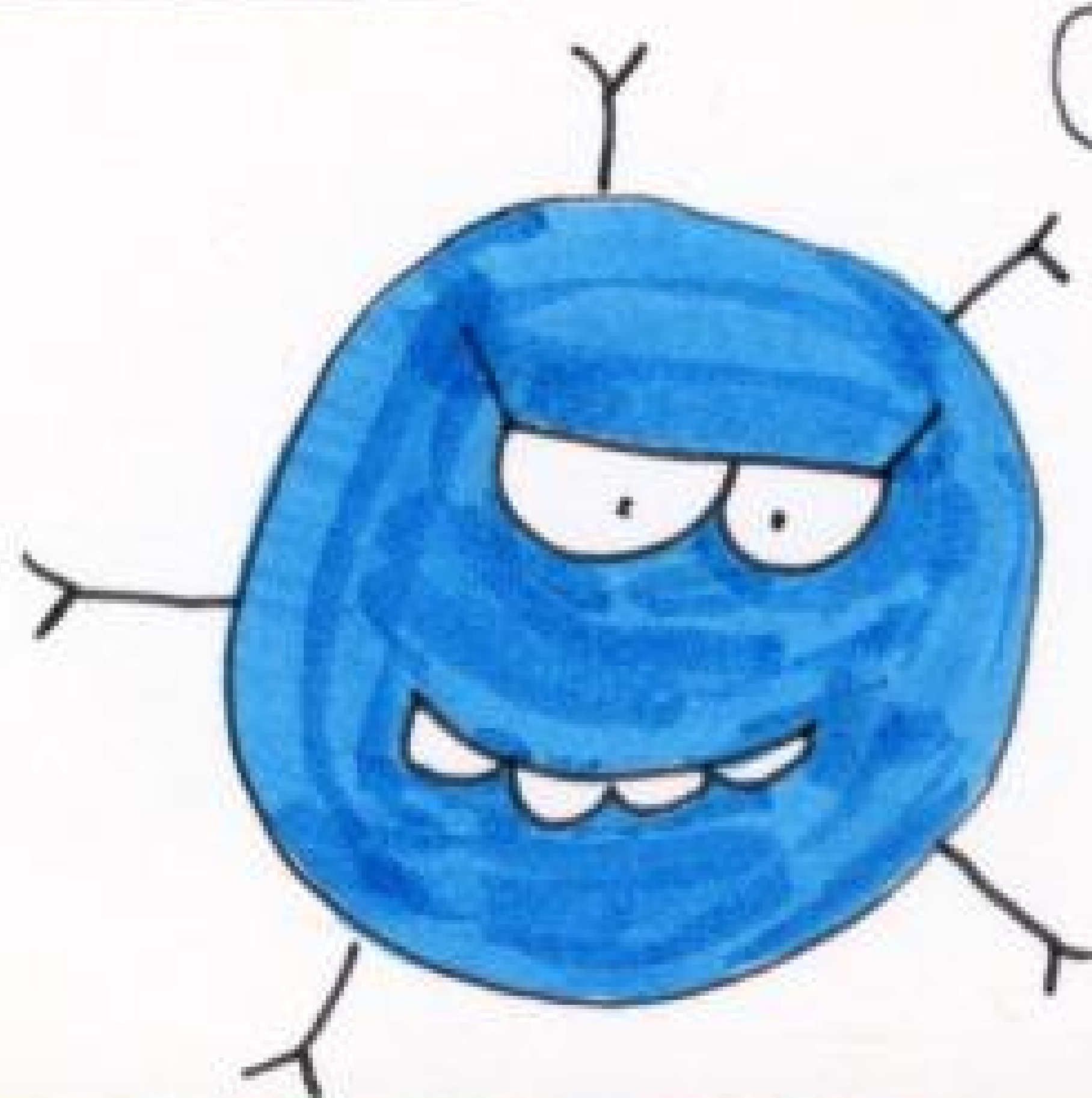
THE T-CELL ACTIVATES THE B-CELL!



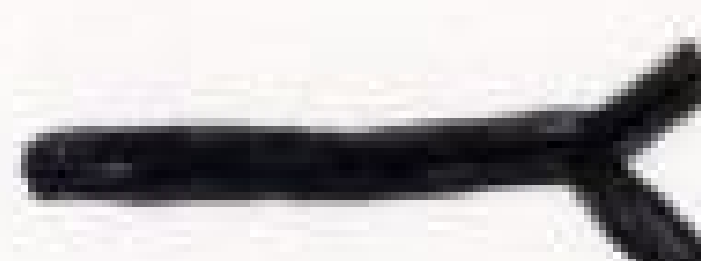
THE B-CELLS PROLIFERATE!



2 WEEKS LATER



HEY! I REMEMBER YOU! AND I ALREADY HAVE ANTIBODIES TO KILL YOU!



PEW!

PEW!

OH NO! AHHA HELP US!

