

Reads for Paeds
**Fighting the Flu:
A Flu Shot Story!**



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Acknowledgements

This book is meant only to support what a young person and their family have already been told about their condition by a healthcare professional. Do not use this book to replace advice and treatment from a doctor.

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QMed Reads for Paeds project was started by the Queen's Medicine Class of 2017. Our goal is to write and illustrate engaging books to explain illnesses that affect children. The books are gifts from us to patients, with the hope of empowering them and their families.



Chapter 1

Crunch! The red autumn leaves below Prasiddha's shoes crackled as she ran across the field.

"Tag, you're it!" Prasiddha yelled as she tapped Tamra's shoulder. Like a lightning bolt, Prasiddha quickly dashed towards the playground.

"I'm going to get you back!" Tamra giggled. She caught up to Prasiddha, and just as she was about to tag Prasiddha back, the recess bell rang. It was time to go inside.

"That was a lot of fun!" Prasiddha said as she began to shiver from the chilly October air.

"Yeah! Let's go inside. Now that we aren't running, I'm getting kind of cold," Tamra replied. The two girls started walking towards the school.

"Oh no, I think I'm going to —" Tamra suddenly stopped walking.

"AAH..." Tamra closed her eyes.

"AAH..." Tamra took a deep breath.

"AACHOO!" Tamra sneezed, and Prasiddha could feel tiny droplets of saliva landing on her face. "Oh no! I've been sneezing all day!" said Tamra.

"That's okay, Tamra," Prasiddha smiled at her friend. "Let's go inside and get you some tissues."



Chapter 2

“Okay everyone, settle down,” Mr. Ritter said as he got his third grade class ready for their health lesson. Praveen was 8 years old, loved health class, and dreamed about being a biologist someday. He was a big fan of Mr. Ritter’s health lessons. They were always interesting and useful!

“Flu season is coming fast, and it’s going to be a bad one this year. Today, we are going to talk about the flu shot! It’s called a vaccination. You get injected with a needle, and your body starts to make defences against the flu. Importantly, it prevents you from making all of your friends and family members sick. If you all get your flu shot, we won’t have to worry about the flu going around our class and making us all sick!”

Praveen was amazed. How could a needle help him not make other people sick? He had to get to the bottom of this.

Later that night at home, Praveen asked his parents about the flu shot. “Mr. Ritter is right, but it’s not just about other people. The flu shot also stops you from getting sick, so you get it to protect yourself as well, Praveen! We can ask Dr. Smiley if she can give you and Prasiddha your flu shots tomorrow at your appointment,” Praveen’s dad said.



Chapter 3

The next day at the doctor's office, Praveen and Prasiddha saw Dr. Smiley. They liked Dr. Smiley. She was a great doctor and has always taken good care of them since they were babies. She also always took the time to explain things to them, and they really liked that.

"Well, your teacher and your parents were both right!" she said to Praveen. "By making your body able to fight off the flu before you get sick, it stops you from carrying and spreading the flu while also stopping you from getting sick. It's a real win-win!"

"Wow!" Praveen and Prasiddha exclaimed in unison. They could not believe their ears. This one shot could protect them and their friends and family all at once. It was almost like science fiction!

Both kids wanted to get this shot right away. Praveen and Prasiddha's mom and dad were proud.

"Oh no!" Dr. Smiley exclaimed. She noticed Prasiddha's runny nose, cough, and sweaty forehead. "Do you feel sick, Prasiddha? Have you had your temperature taken? Let's check it."

Sure enough, the thermometer read 38.3 degrees Celsius. Prasiddha had a fever.

"Looks like the flu came early this year, Prasiddha. I can't give you the flu shot because you are already sick. You have to be well to be able to get the flu shot. Why don't we meet again once you're feeling better?"

Dr. Smiley turned to Praveen. "How do you feel, Praveen? Any cough, fever, or chills? Is your nose running? Have you been throwing up lately?"

"I feel pretty good!" Praveen said confidently.

"Okay, great. Let's get you your shot!" Dr. Smiley said. Praveen could feel his heart beating faster. He was starting to get nervous. "Dr. Smiley?" Praveen asked.

"Yes, Praveen?" Dr. Smiley replied as she prepared the vaccine.

"Is this – is this going to hurt?"

Dr. Smiley stopped what she was doing and smiled. "It might hurt a little, but only for a few seconds. It is going to feel like a light pinch, and then before you know it, that feeling will go away!"

Praveen relaxed. He wanted to be brave, and he knew that a small pinch would be worth it to prevent himself and others from getting sick.

"Praveen, when you are at school, which hand do you hold a pencil in?" asked Dr. Smiley.

"My right hand!" Praveen said.

"That's good to know. I'm going to give you the needle in your left arm then. Sometimes, your arm can feel a little sore after a vaccination, so it's best that I use your left arm since you are right-handed," Dr. Smiley responded. Praveen liked it when Dr. Smiley explained what she was doing.

“Can you roll up your left sleeve for me?” Dr. Smiley asked. Praveen rolled up the left sleeve of his shirt, and Dr. Smiley rubbed the top part of his left arm with a wet cotton ball. “I am just using some alcohol to make sure that your arm is clean and ready for the vaccine.”

Next, Dr. Smiley picked up the needle and drew the vaccine from a little bottle. “I’m going to give you the shot now, Praveen. Can you take a deep breath for me?” Praveen closed his eyes and took a deep breath. He felt the needle touch his skin, and then he felt a small pinch.

“All done! Great job, Praveen!”

Praveen opened his eyes and smiled. “Wow, that was really quick! You were right, that wasn’t so bad! Thanks, Dr. Smiley.”

Dr. Smiley put a bandage on Praveen’s left arm and handed him a green lollipop. “Thank you for getting your flu shot, Praveen. You won’t even realize it, but the vaccine is already starting to work its magic inside your body!”



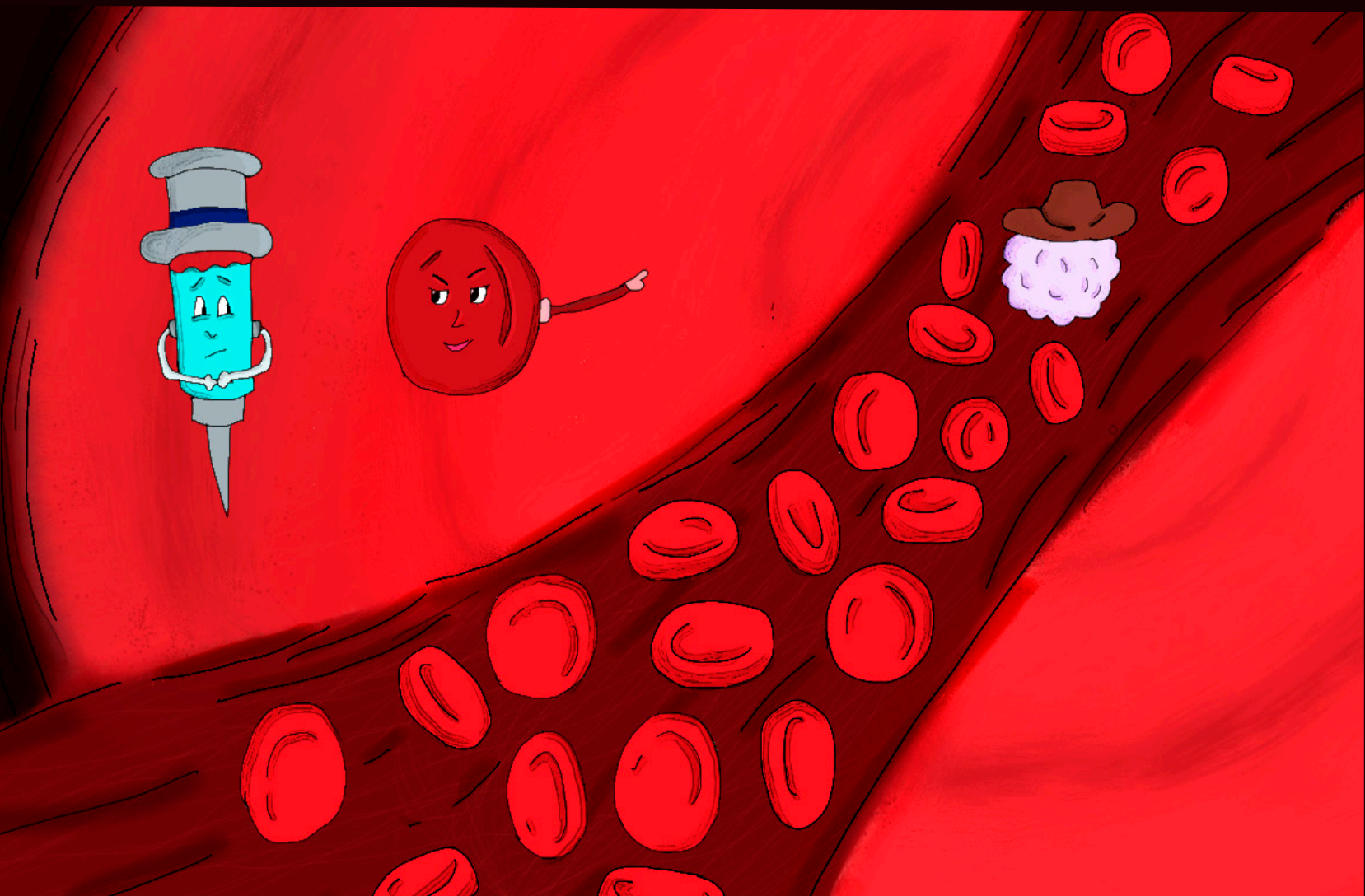
Chapter 4

Dr. Smiley was right. Inside Praveen's body, the vaccine was already hard at work helping him build immunity from the flu. After Dr. Smiley injected the needle into Praveen's arm, the vaccine quickly entered Praveen's blood where it began to do its job.

The vaccine was not the only thing floating around Praveen's blood. There were red blood cells as well that were delivering oxygen to different organs of the body.

The vaccine watched as these dark red discs raced past, carrying little oxygen molecules with them. "Nice place you got here, Praveen!" exclaimed the vaccine as it floated through Praveen's blood. "Now, I'm looking for someone specific. Where can I find them? Maybe one of the red blood cells can help." The vaccine hurried ahead and caught up to one of the red blood cells

"Hey, red blood cell," the vaccine said shyly. It tapped on the red blood cell to get its attention. "I'm looking for someone. Maybe they are a friend of yours? A cousin?"



The red blood cell turned around and glared at the vaccine with a frustrated look.

“You talking to me?” the red blood cell grunted, annoyed by this stranger’s questions. “What do I look like to you, a tour guide?”

“Sorry if I’m bothering you! I just thought you might know who I’m looking for.”

The red blood cell squinted and leaned in towards the vaccine to take a closer look at it. “Something’s weird. You don’t look familiar at all. Are you from here?” asked the red blood cell suspiciously.

“No, I’m not from here, but I’m friendly! I promise that I am not here to hurt anyone. I am a vaccine, the flu vaccine for Praveen.”

The red blood cell’s scowl suddenly disappeared, and it brightened up with a large grin. “A vaccine! Well, why didn’t you say so earlier? I know just who you are looking for.” It pointed towards a white cell. “See that cell over there? It’s called a white blood cell. It can help you out.”

“Thanks, red blood cell! Have a safe journey to the lungs!”

“You bet! Best of luck!” the red blood cell exclaimed as it sped off through the blood to join its friends. The vaccine looked around to find the white blood cell that the red blood cell had pointed out earlier. Amongst the sea of red blood cells, it was no easy task, but eventually the distinct white colour caught its eye. The vaccine approached the back of the white blood cell, and before it even had a chance to speak, the white blood cell spun around to face the vaccine.

“HEY, YOU THERE! STOP WHERE YOU ARE RIGHT NOW!” yelled the white blood cell, holding its hand up like a traffic guard.

The vaccine immediately stopped. “Umm... me?”

“YOU! STAY RIGHT THERE! DON’T YOU DARE MOVE!” the white blood cell ordered.

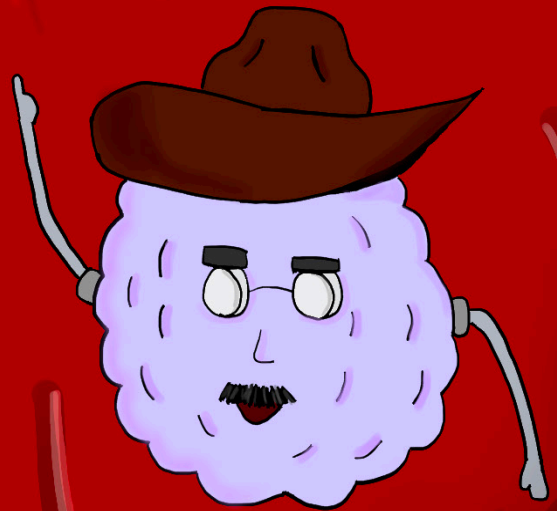
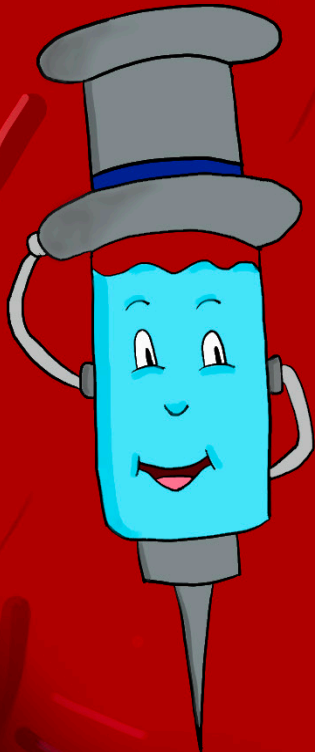
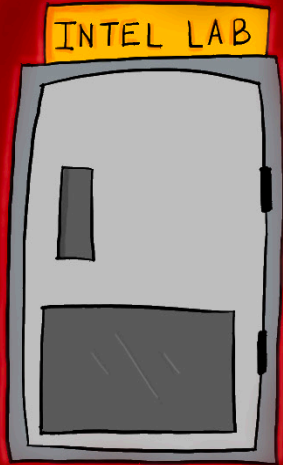
It rushed towards the vaccine. "You are currently trespassing the property of Praveen, a criminal offence as outlined in the Immune Constitution, Section 4.5, Lines 38 to 41. Anything you say may be used against you. You have the right to consult a lymph node before speaking, but I wouldn't do that if I were you! Or should I call you... flu virus!"

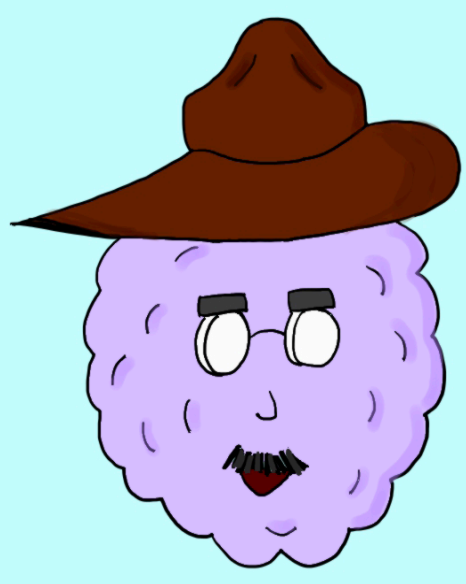
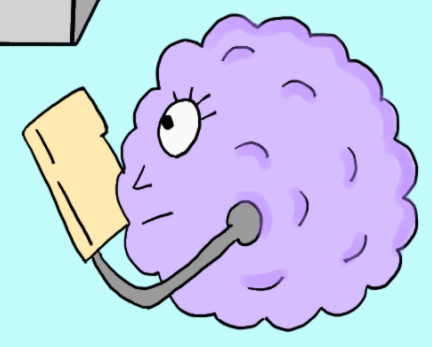
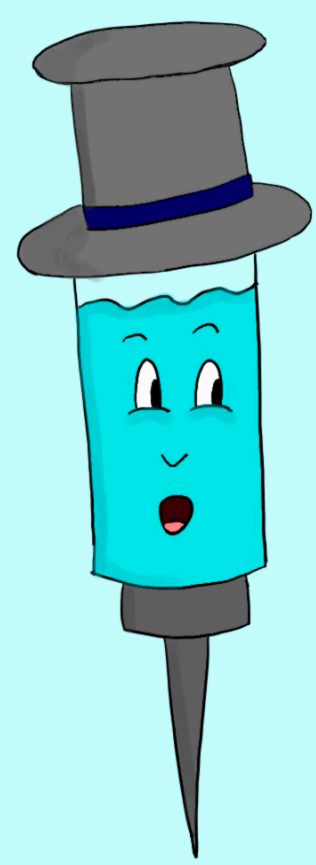
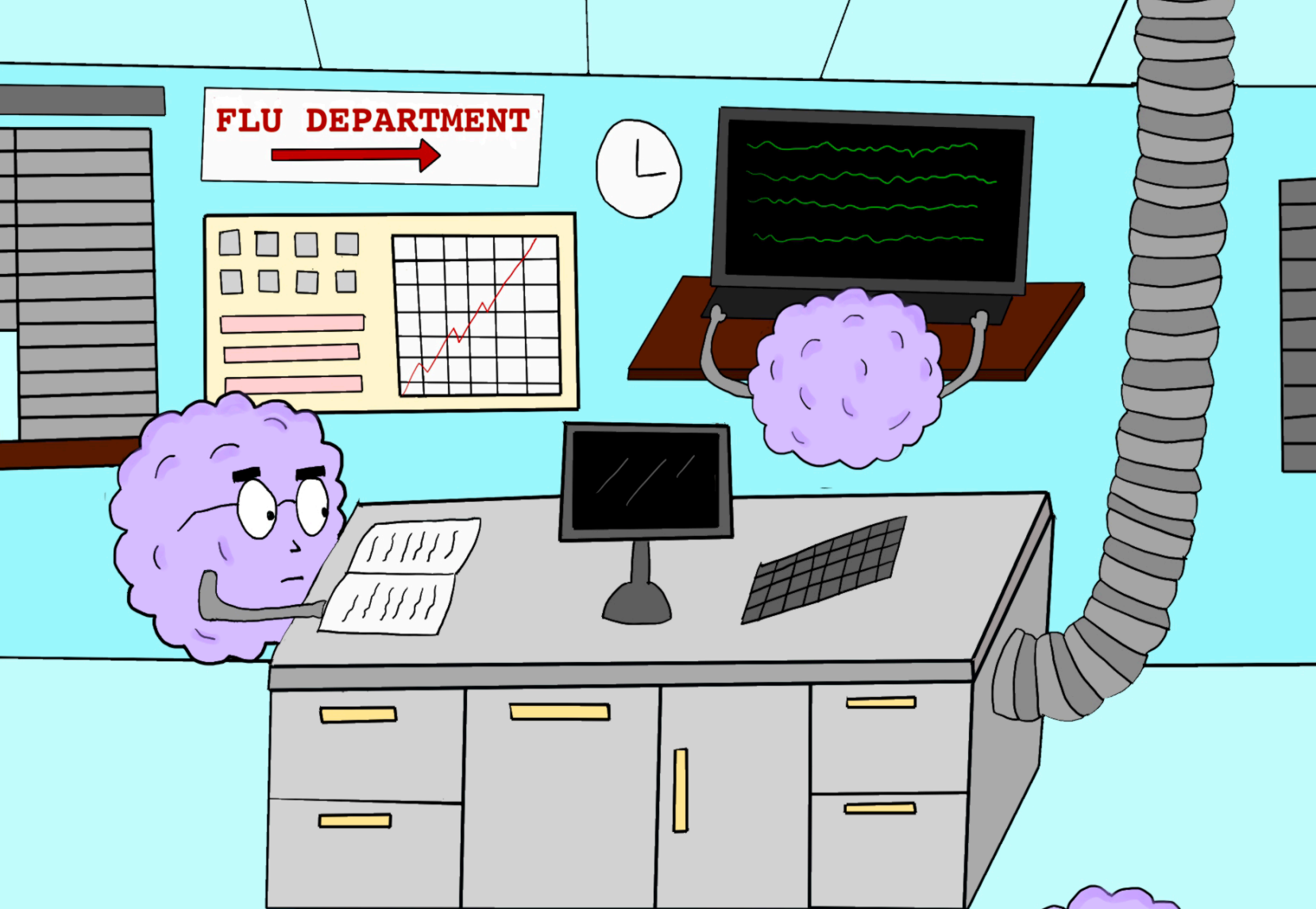
"Wait, no! I'm a vaccine! I have a piece of this year's flu to show you, but I'm not actually the flu!" the vaccine exclaimed.

The white blood cell paused. "Vaccine? Hold on..." It lowered its glasses to examine the vaccine further and began to nod up and down in approval. "You're completely right, kid! You are a vaccine. Why didn't you say so earlier?"

"I've been getting that a lot lately," the vaccine laughed.

"Well, you have just what we need! Come follow me!"





Chapter 5

The white blood cell led the vaccine into a large room filled with computer screens that lined the walls from end-to-end. “Welcome to the intel lab!” the white blood cell proudly proclaimed.

Beep! Boo bop! Ring ring! The vaccine’s eyes widened as it gazed in awe at the bright lights of the intel lab.

“We have multiple departments working here,” said the white blood cell. It gestured towards a group of white blood cells typing on keyboards in their cubicles. “That’s the Chickenpox Department. They’re in charge of remembering what the chickenpox virus looks like so that Praveen doesn’t get it.”

The white blood cell turned the other way and shouted at a group of white blood cells sitting around a table, “Hey, Polio Department! How’s it going over there?” The white blood cells from the Polio Department gave them a thumbs-up. “That’s the Polio Department. They’re always doing some pretty serious stuff over there,” whispered the white blood cell.

The white blood cell led the vaccine to a different section of the intel lab. A big sign overhead read “Flu Department”. Here, the white blood cells looked much more worried and stressed than the other departments.

“Well, what are we supposed to do then, huh?” shouted one white blood cell, banging its fist on the desk.

“Nothing! I only see files for past flus here. ‘Flu 2018’, ‘Flu 2019’, ‘Flu 2020’...” said another white blood cell as it frantically searched through a filing cabinet filled with folders.

“We can’t do anything until we have seen Flu 2021! We’re doomed!” cried another white blood cell as it sank into its office chair in defeat.

The white blood cell that had arrived with the vaccine raised its voice, "Hey everyone! I think I found what you need!"

The white blood cells in the Flu Department stopped what they were doing and turned towards them. The vaccine slowly stepped forward. "Hi, I can help. I'm the flu vaccine for 2021. I brought a little piece of this year's flu to show you," said the vaccine.

The Flu Department erupted in pure joy and excitement. Colourful alarm lights whirled around and around as a celebratory siren blared in the air. "YAY! WOO-HOO! YIPPEE!" the white blood cells yelled. "Now let's take a closer look at you... what part of this year's flu virus have you brought for us? AHA! The spike protein! I was hoping you'd bring this over. That's part of the flu's infiltration system. It sits right on the outside and helps the flu virus spread everywhere in poor Praveen. Well done! With this information we can train the special forces to recognize that pesky flu right away and stop it in its tracks!"

They led the vaccine to the training camp in the centre of the bone... the marrow - it was intense there. Special white cells were working quickly to craft millions of Y-shaped proteins and ship them all over the body.

"This is where the magic happens," the white blood cell said. "These are called antibodies. They will stick to the flu's spike protein and call over the destroyer cells. Once that happens, it's game over for the flu."

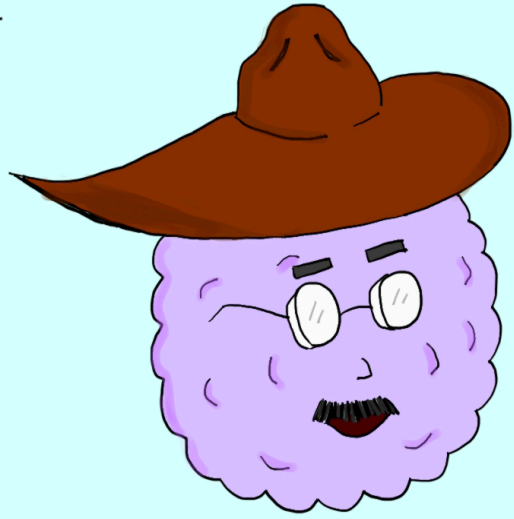
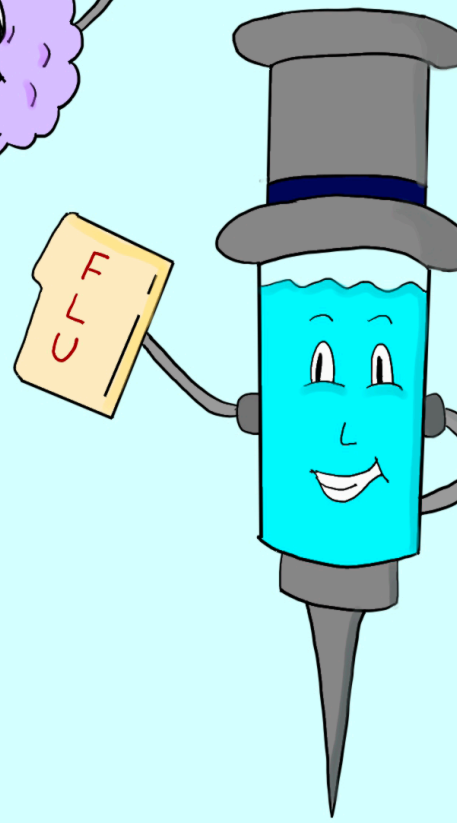
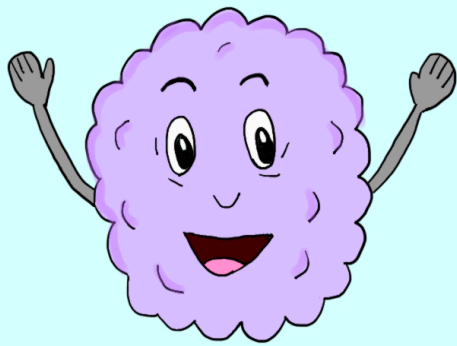
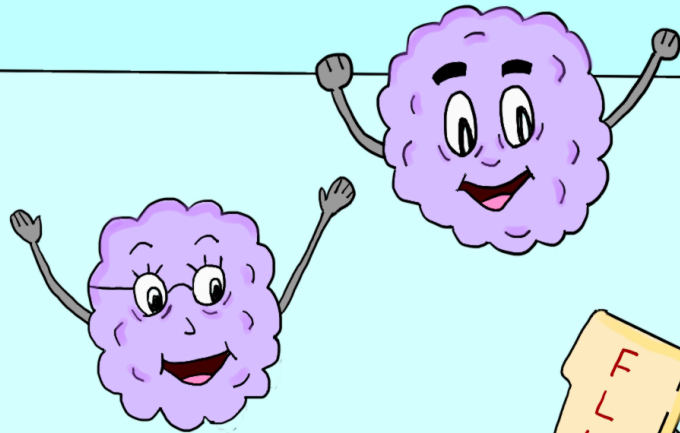
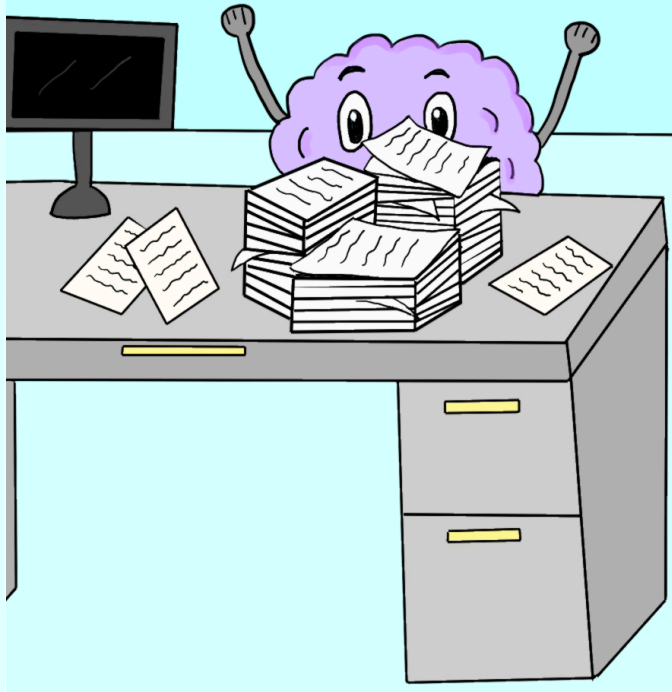
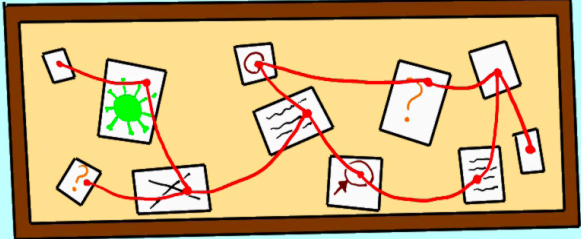
"Whoa!" said the vaccine. "You run a tight ship here, don't you?"

"Yep, but it all depends on the intelligence we receive. You see, if the flu gets in here before we have the antibodies ready, it can wreak havoc before we have a chance to catch up. But we will be ready for it this year!"

TIME UNTIL FLU SEASON

00 00 30 05
DAYS HOURS MINS SECS

FLU DEPARTMENT



Chapter 6

Praveen rubbed his arm. Ouch... it was sore. He had taken off the bandage already and there wasn't even a mark that was big enough for him to see. But it hurt and he did not feel like going to his swimming lesson that night. Moving his arm was no fun... but he could play video games no problem!

Meanwhile, Prasiddha was having a really hard night. She was all sweaty and hot, dizzy, and had already thrown up twice. She did not even want to play video games with Praveen when he came to invite her. She was just too tired.



“HELLPPPP!!!” yelled the white blood cells.

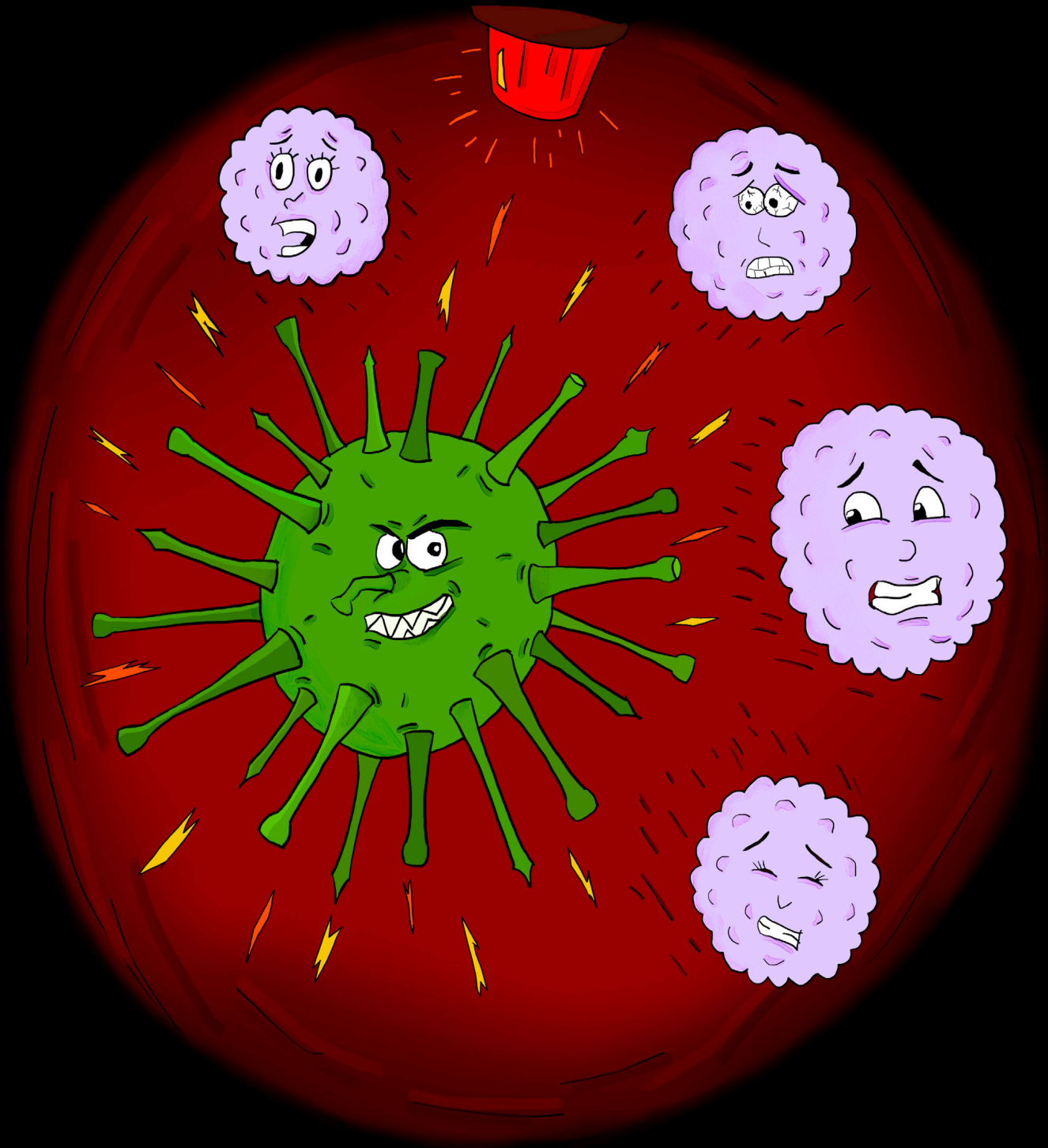
“Intruder detected... intruder detected” the alarm system screeched. At the intel lab, the white blood cells were beside themselves. “How could we have known?? We could not have seen this coming! We need everybody on this STAT!”

Production was in overdrive as Prasiddha’s immune system reacted to the flu. The tension was high... and with that, so was the temperature. It was hot!

“Muaahahaha! I will take over everything!” shouted the flu. “You are no match for me! Prasiddha is mine!”

The white blood cells frantically raced to try to attack the flu with every tool they had, but it was slow work. They still had to get their information to the lab, ramp up production, and then deal with that pesky virus. And the flu was EVERYWHERE! This would take days... All the while Prasiddha would feel exhausted and sick while her body worked hard to catch up and then overtake that flu virus.

Location: Prassidha's bloodstream





Chapter 7

Two weeks later, Praveen was playing after school with his friend Theo. “ACHOO!” Theo might be coming down with the flu. “Uh-oh” said Praveen. “Did you get your flu shot yet?”

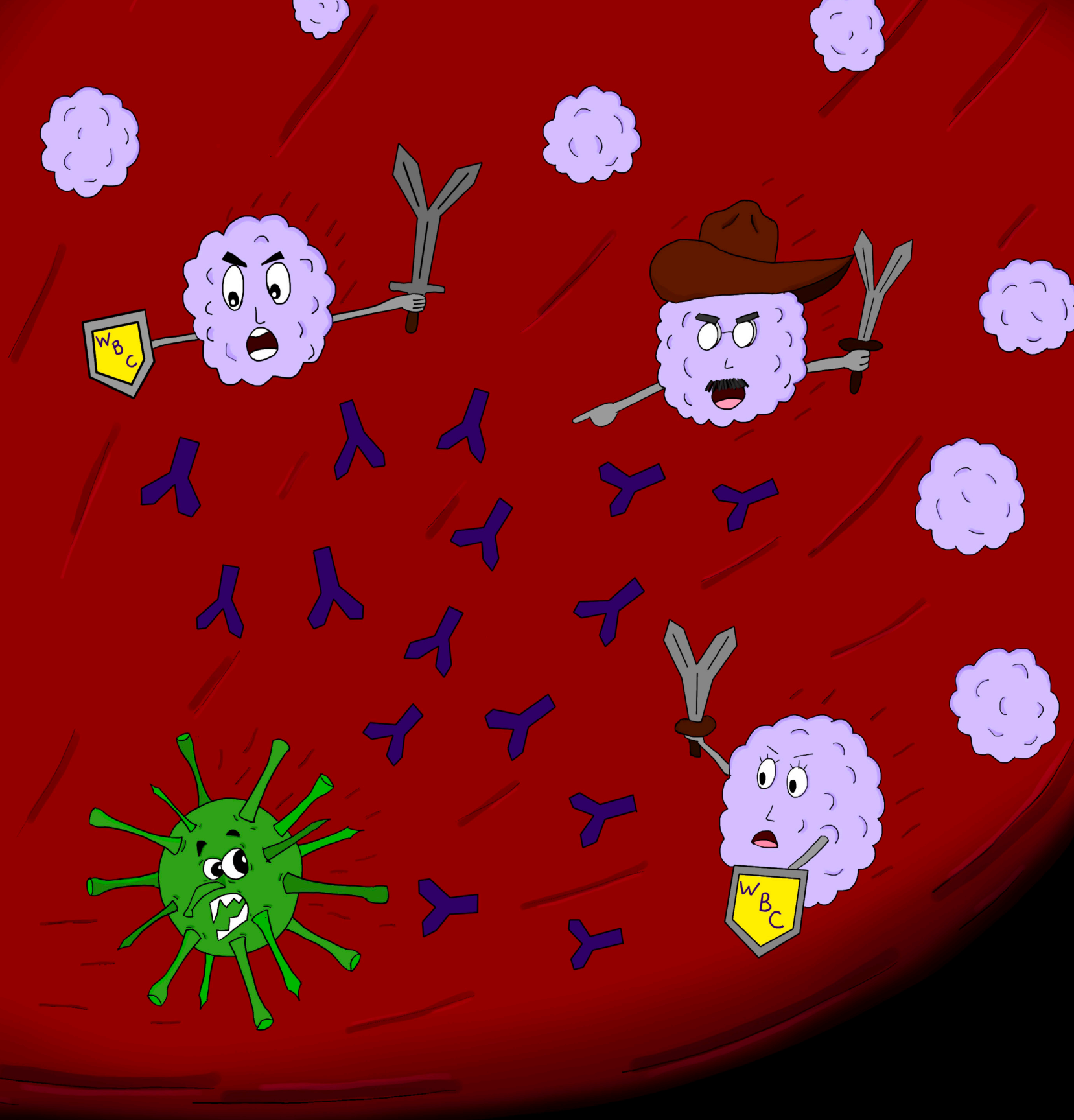
“Not yet...” said Theo. “ACHOO!!”

Theo had been caught off guard mid-sentence. He forgot to sneeze into his sleeve and a powerful gust of air sent droplets right over to Praveen, who breathed them right in.

“Muahahaha! Now is my chance!” yelled the Flu. “I got your sister and now you will be MINE Praveen!”

No sooner did the Flu get into Praveen’s blood than it heard a terrifying sound: “Hold it right there! We’ve been expecting you.” The antibodies swarmed, sounding the alarm. *DEEEDOOO DEEEEDOOOO*. All of a sudden the white blood cells showed up.

“You’ll never be getting in here, Flu. You’re coming with us.” And they stopped the Flu right there, clearing it right out of Praveen’s body.



That night at dinner, Praveen talked about his day and told his parents about Theo. "Oh poor Theo!" Mom said. "I hope he doesn't have to miss too much school. Maybe it's a false alarm."

Prasiddha agreed. Missing school was more work than actually going to school. Two weeks later she was still catching up on homework. She was a little jealous of Praveen for not having to go through what she did, but she was also really glad he didn't have to. She wouldn't wish that calamity on anybody!

Next year, Prasiddha vowed to get her shot the very first day she could.

