

**ISSUE 1**

**THE  
IMMUNIZER  
AND THE COVID-19  
VACCINES**

**INCLUDING  
PUZZLES, FACTS,  
AND A GLOSSARY**

**UPDATED SEPTEMBER 2022**

**BY: JENNYFER OSUNA, SAM RAINES, AND RYAN HIGGINS**

# SPECIAL THANKS

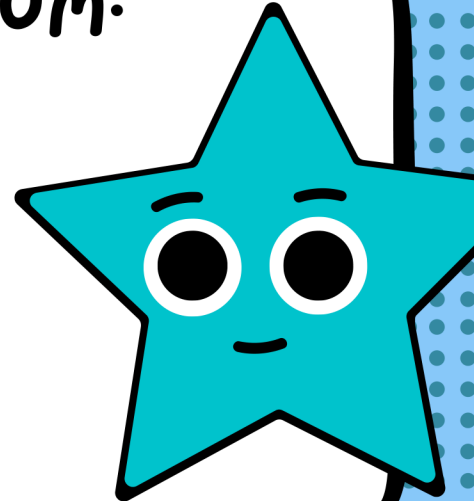
TO THE CONTRIBUTIONS FROM:

ALEX HOWEY

SHI ROBISON

NICHOLE DANTZLER

AND GAYLE MENDOZA



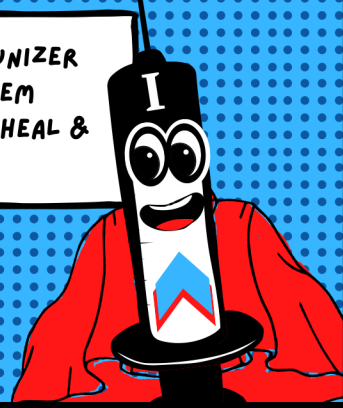
# QUESTIONS?

DON'T BE SHY,  
TALK TO YOUR DOCTOR!  
THEY ARE PREPARED TO ANSWER  
ANY VACCINE RELATED QUESTIONS.  
THEY CAN ALSO TELL YOU WHERE TO  
FIND THE RIGHT ANSWERS!



# LEARN ABOUT VACCINES WITH

- THE IMMUNIZER
- THEY/ THEM
- LIKES TO HEAL & TEACH



## TOPICS:

## PAGE #

WHAT VACCINES DO ..... 4-5

HOW MANY DOSES YOU NEED ..... 6

HOW COVID-19 VACCINES WORK ..... 7

VACCINE BOOSTERS ..... 8

VACCINE SIDE EFFECTS ..... 9

VACCINE SAFETY ..... 10-11

WHY YOU SHOULD GET  
COVID-19 VACCINES ..... 12

WHERE YOU CAN GET  
COVID-19 VACCINES ..... 13-14

- ASH, THEY/THEM
- 12 YEARS OLD
- LIKES PIZZA AND BASKETBALL



- ASA, SHE/HER
- 17 YEARS OLD
- ASH'S SISTER
- LOVES HISTORY



- DOCTOR, SHE/HER
- 45 YEARS OLD
- VACCINE EXPERT
- LIKES PUZZLES

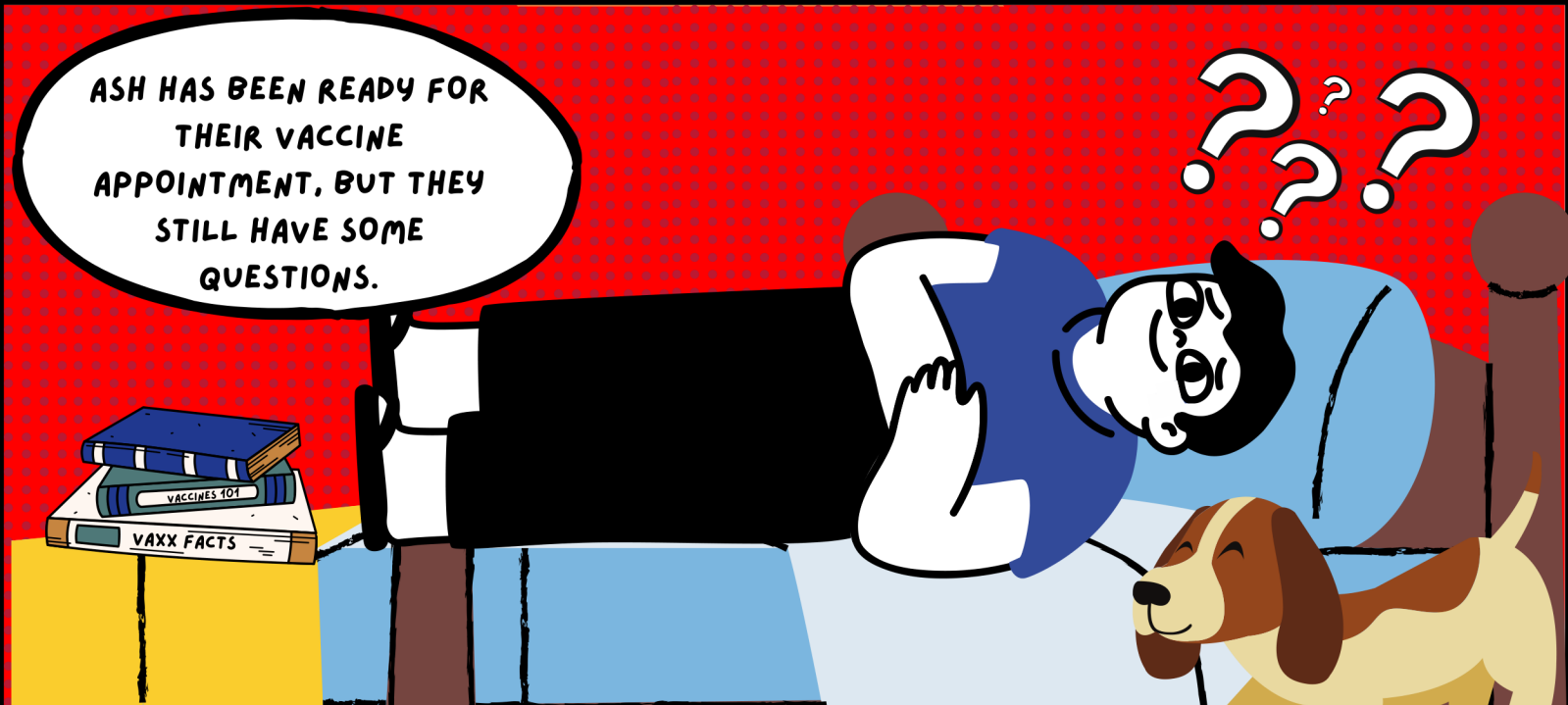
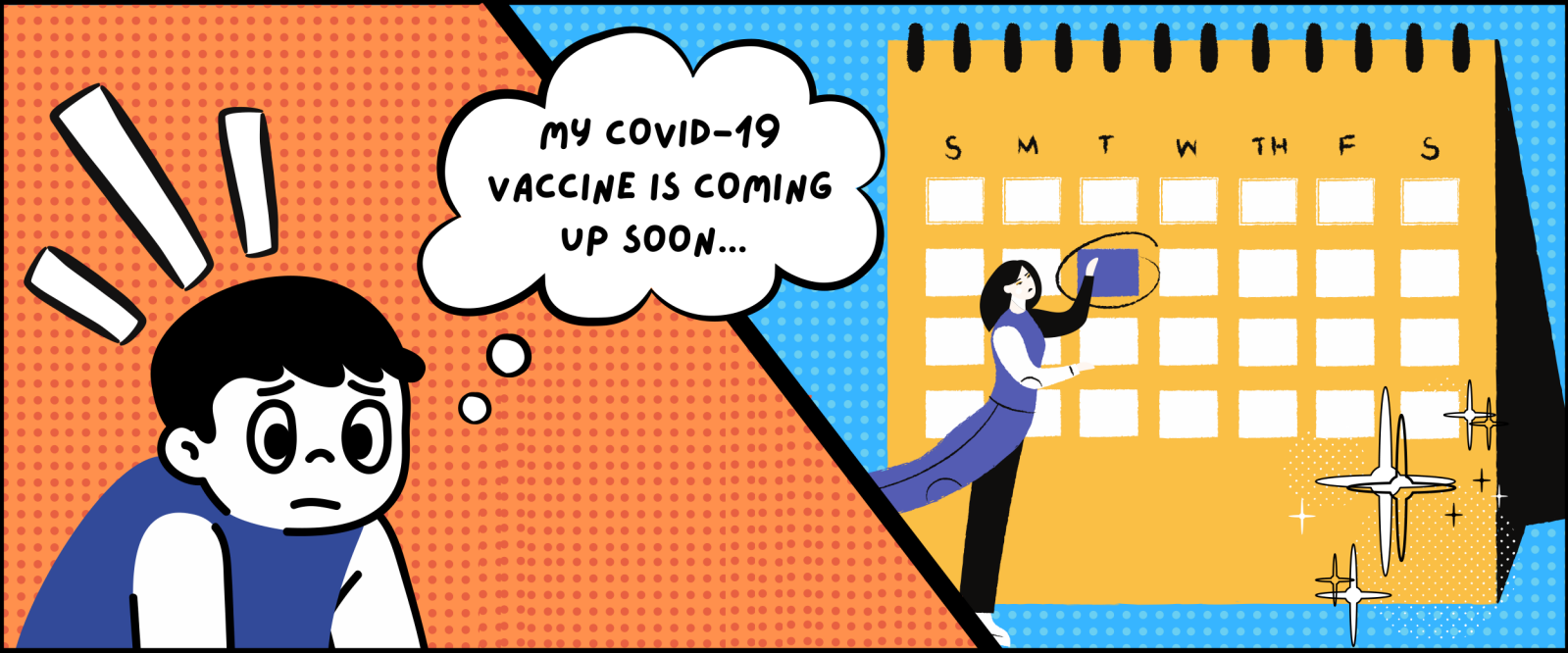
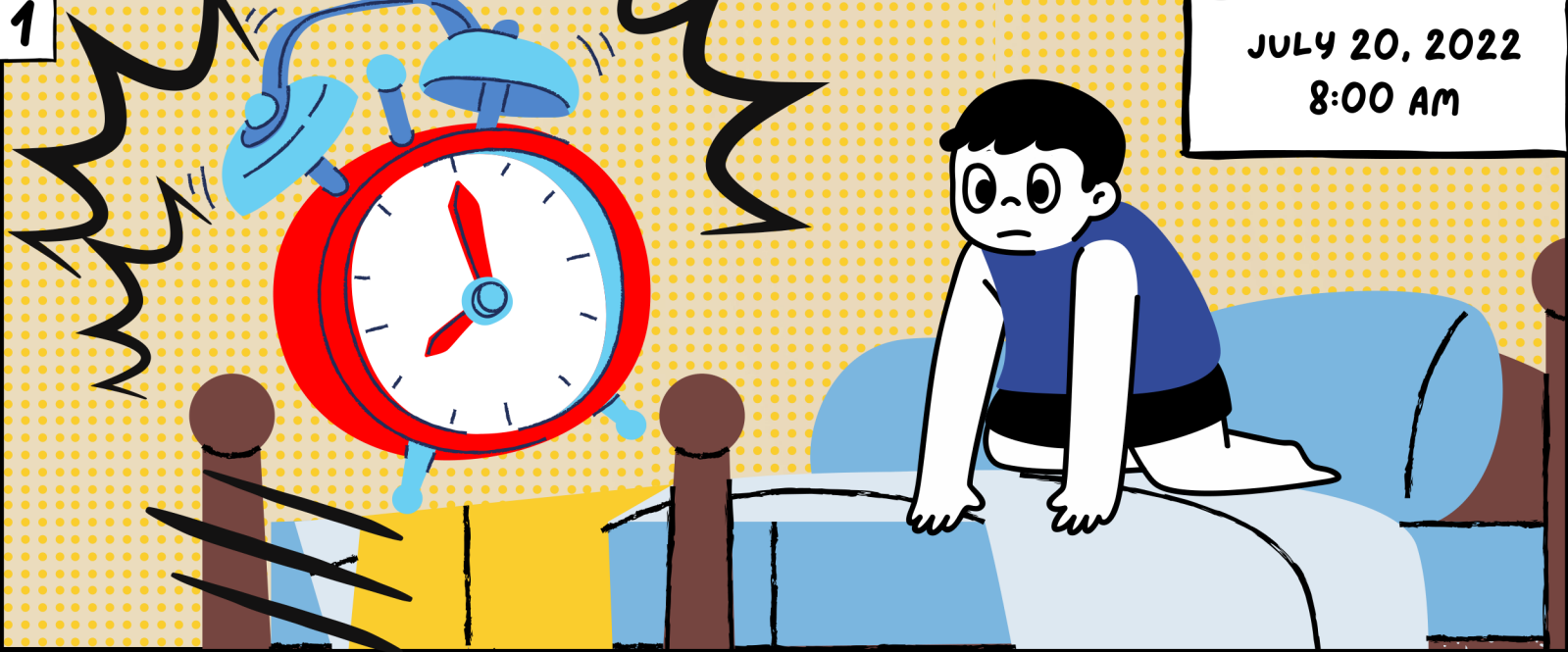


- SCRUFFY, HE/HIM,
- 2 YEARS OLD, RAISED BY ASH
- LIKES TO RUN, EAT, AND SLEEP



# LETS BEGIN!

JULY 20, 2022  
8:00 AM

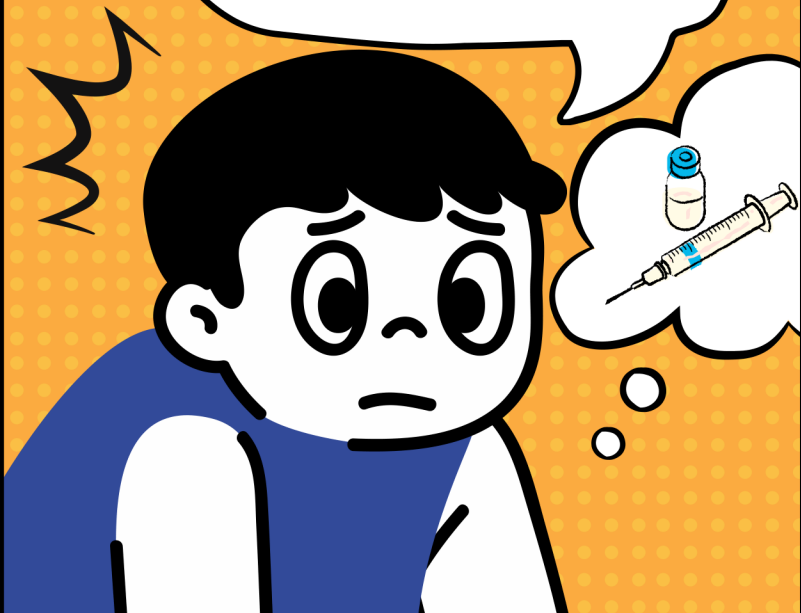


ASH HAS BEEN READY FOR THEIR VACCINE APPOINTMENT, BUT THEY STILL HAVE SOME QUESTIONS.

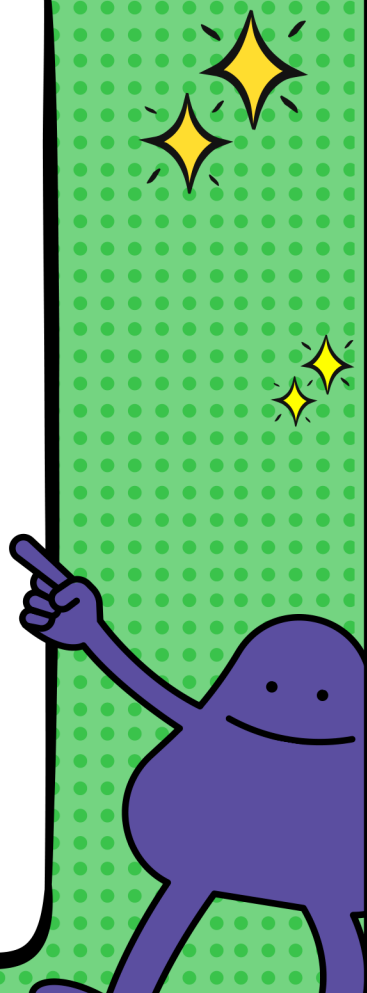
ASH, YOU LOOK LIKE SOMETHING IS BOTHERING YOU. ARE YOU OK?



OH...WELL...IT'S JUST THAT...I HAVE MY COVID-19\* VACCINE APPOINTMENT SOON AND I'M WORRIED THE NEEDLE MIGHT HURT! MY FRIENDS SHOWED ME SOME PICTURES AND THE NEEDLE LOOKS SHARP AND I DON'T UNDERSTAND HOW VACCINES\* WORK!



WHEN YOU SEE AN ASTERISK (\*) NEXT TO A WORD, CHECK OUT THE GLOSSARY ON PAGES 16 & 17 TO FIND OUT WHAT IT MEANS!



BABY  
ASH

IT'S OK ASH. I ALREADY GOT MY COVID-19 VACCINE AND YOU MAY NOT REMEMBER, BUT YOU'VE ACTUALLY GOTTEN MANY VACCINES SINCE YOU WERE A BABY.

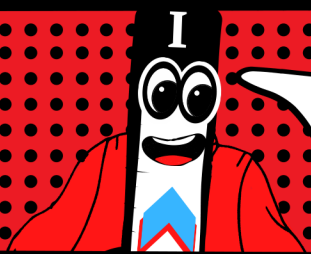
LET'S GO TALK TO SOMEONE WHO KNOWS MORE ABOUT VACCINES.



DOCTORS  
OFFICE

I'M GLAD YOU TWO CAME TO TALK WITH ME. IT'S OK TO BE SCARED ASH. THERE'S SO MUCH INFORMATION OUT THERE ABOUT VACCINES, IT CAN BE VERY CONFUSING. LET'S LEARN MORE ABOUT VACCINES FROM **THE IMMUNIZER!**





VACCINES ARE CREATED AND STUDIED BY DOCTORS AND SCIENTISTS TO HELP US FIGHT DISEASES. VACCINES HAVE BEEN KEEPING US SAFE FOR OVER 200 YEARS!



WOW!

A HISTORY OF VACCINES:



SMALL POX APPROVED 1931



POLIO VAX APPROVED 1955



MEASLES APPROVED 1963

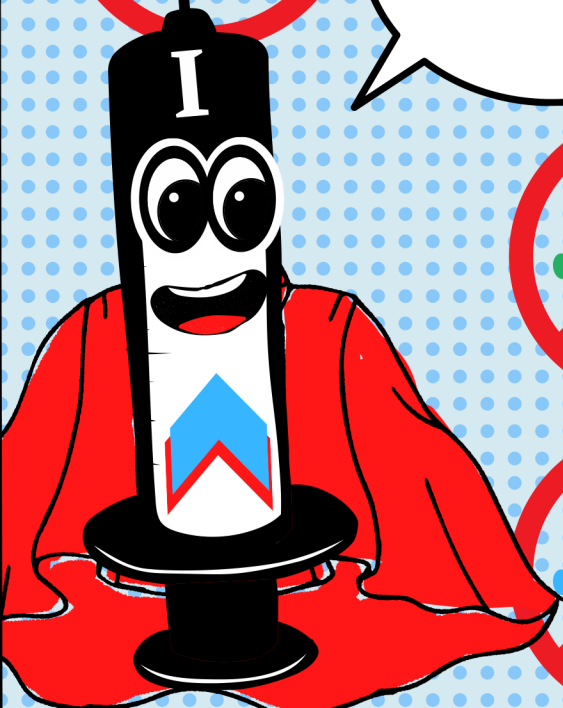
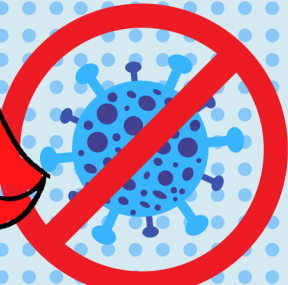


HEPATITIS B APPROVED 1985

DATES PROVIDED BY CHILDREN'S HOSPITAL OF PHILADELPHIA

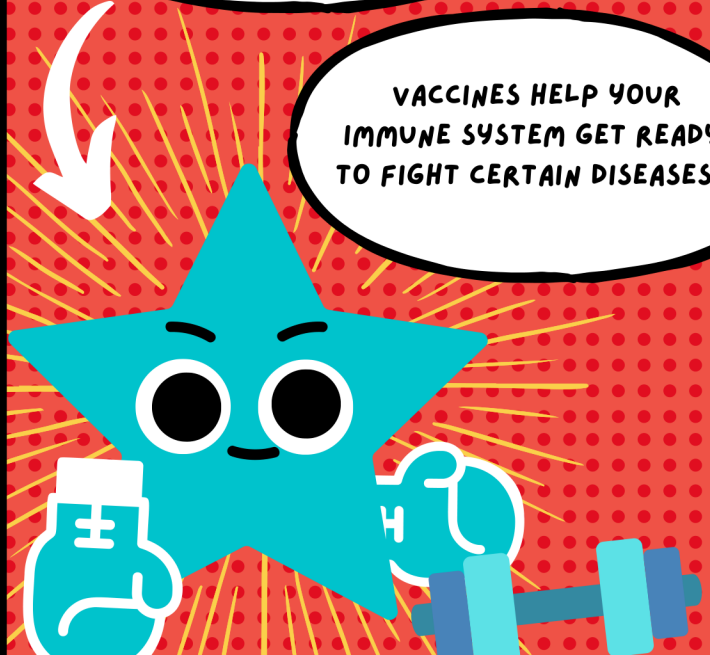


EACH VACCINE HELPS YOUR BODY FIGHT A SPECIFIC DISEASE.



YOUR BODY FIGHTS DISEASES WITH AN IMMUNE SYSTEM. THEY ARE LIKE YOUR OWN PERSONAL SUPERHERO.

VACCINES HELP YOUR IMMUNE SYSTEM GET READY TO FIGHT CERTAIN DISEASES.





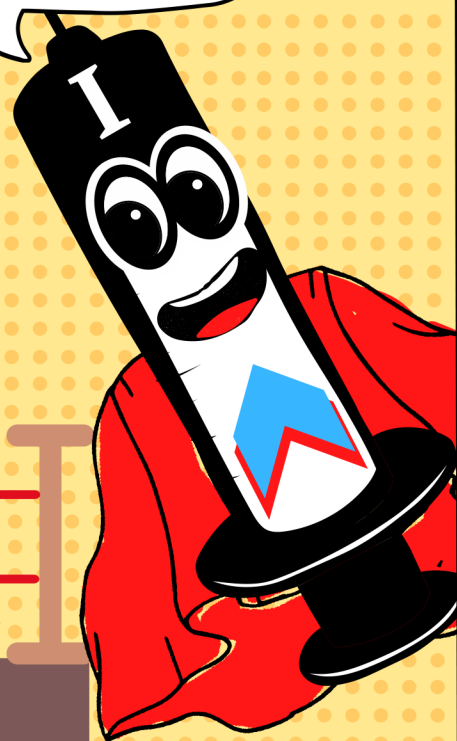
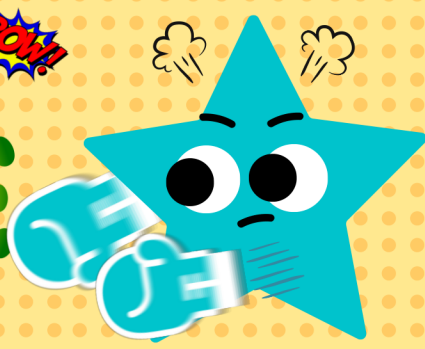
VACCINES PREPARE YOUR IMMUNE SYSTEM BY GIVING IT AN IMITATION OF THE VIRUS TO PRACTICE WITH.

THEN YOUR IMMUNE SYSTEM WILL BE ABLE TO RECOGNIZE THE VIRUS AND KNOW HOW TO FIGHT IT!

POW!

POW!

POW!



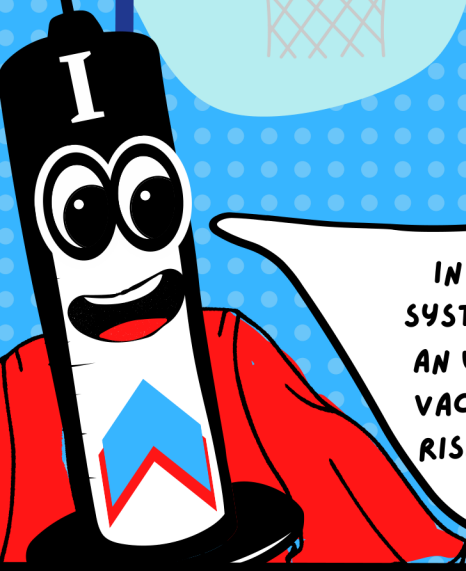
DUNK



WHEN I PRACTICE MORE I WIN MORE!



I SHOULD START PRACTICING.



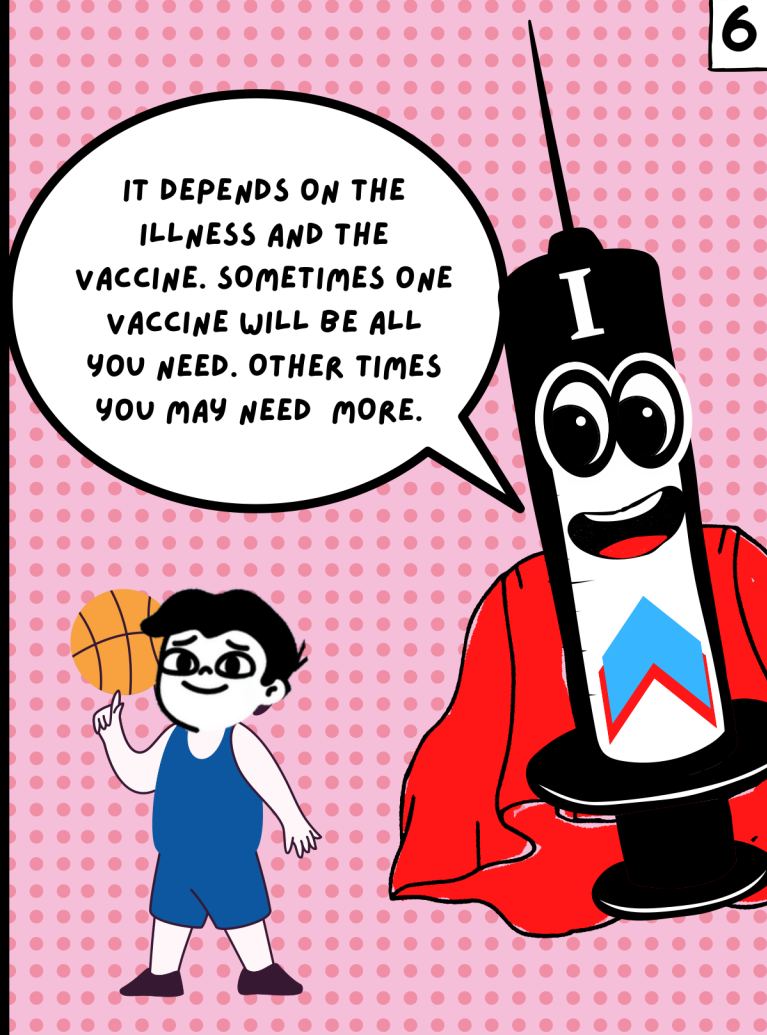
IN THE SAME WAY, A PRACTICED IMMUNE SYSTEM WINS AGAINST DISEASES MORE THAN AN UNPRACTICED IMMUNE SYSTEM. PEOPLE VACCINATED AGAINST COVID-19 HAVE LESS RISK OF HOSPITALIZATION OR DEATH THAN UNVACCINATED PEOPLE.



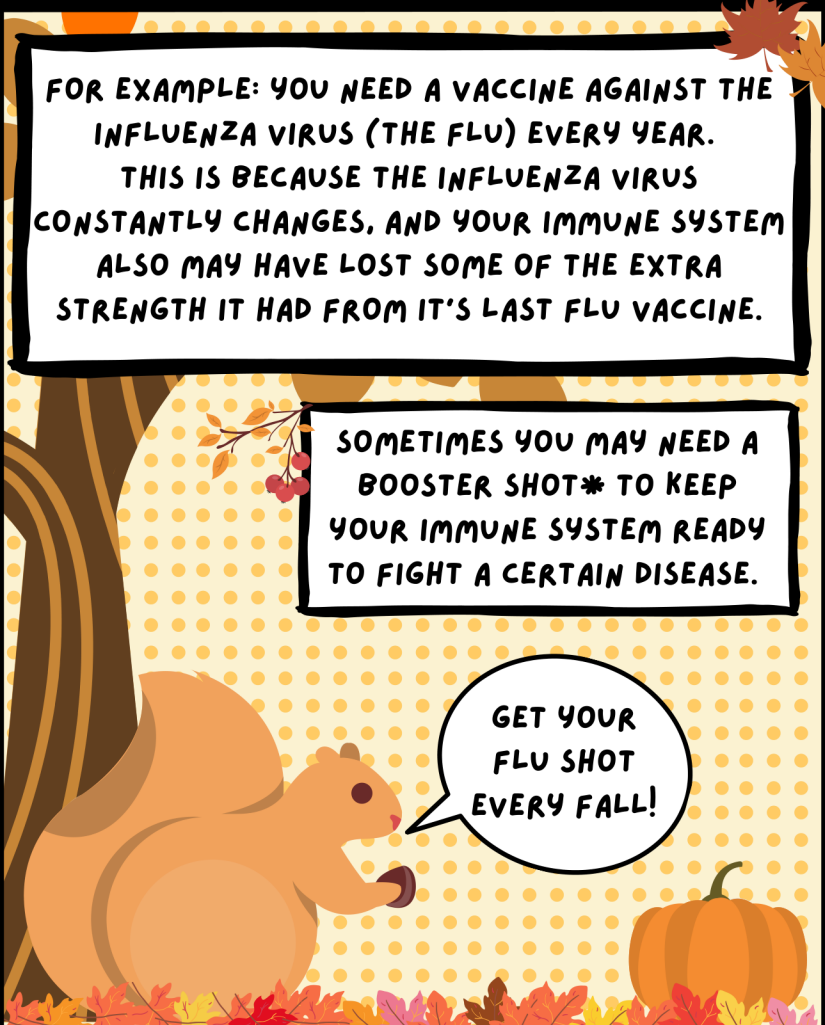


BUT I NEED TO PRACTICE TWICE A WEEK TO STAY IN SHAPE!

HOW MANY DOSES OF A VACCINE DO I NEED TO KEEP MY IMMUNE SYSTEM STRONG?



IT DEPENDS ON THE ILLNESS AND THE VACCINE. SOMETIMES ONE VACCINE WILL BE ALL YOU NEED. OTHER TIMES YOU MAY NEED MORE.



FOR EXAMPLE: YOU NEED A VACCINE AGAINST THE INFLUENZA VIRUS (THE FLU) EVERY YEAR. THIS IS BECAUSE THE INFLUENZA VIRUS CONSTANTLY CHANGES, AND YOUR IMMUNE SYSTEM ALSO MAY HAVE LOST SOME OF THE EXTRA STRENGTH IT HAD FROM IT'S LAST FLU VACCINE.

SOMETIMES YOU MAY NEED A BOOSTER SHOT\* TO KEEP YOUR IMMUNE SYSTEM READY TO FIGHT A CERTAIN DISEASE.

GET YOUR FLU SHOT EVERY FALL!



OK I'LL GET MY FLU SHOT...BUT WHEN WILL WE LEARN ABOUT THE COVID-19 VACCINES?

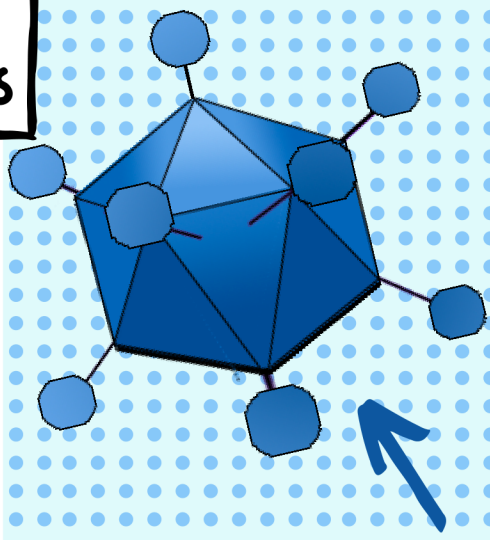
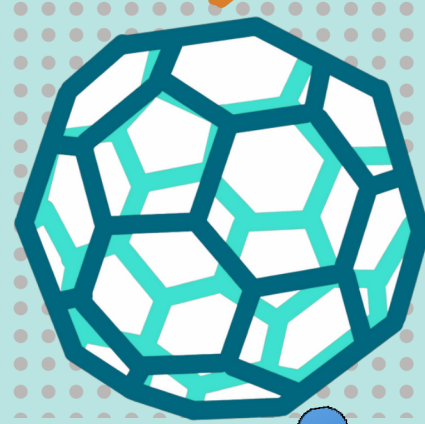
THEY'RE NEXT!

# LET'S LOOK INSIDE THE COVID-19 VACCINES



THE PFIZER AND MODERNA VACCINES USE MRNA\* TO CREATE A PROTIEN FOR OUR IMMUNE SYSTEM TO RESPOND TO.

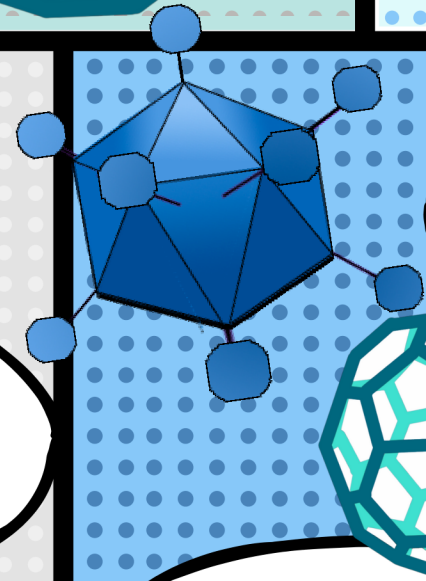
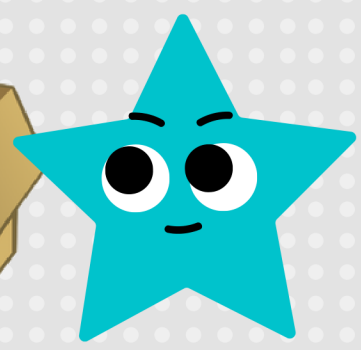
THE NOVAVAX VACCINE USES A PROTEIN AND IMMUNE SYSTEM BOOSTER CALLED AN ADJUVANT.



THE JOHNSON AND JOHNSON VACCINE USES A HARMLESS VIRUS CALLED A VECTOR TO SEND IMPORTANT INSTRUCTIONS TO OUR IMMUNE CELLS.

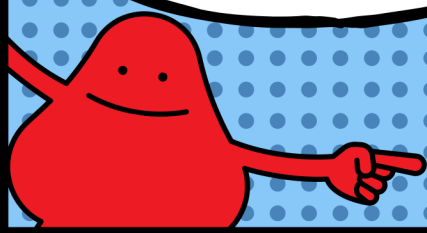
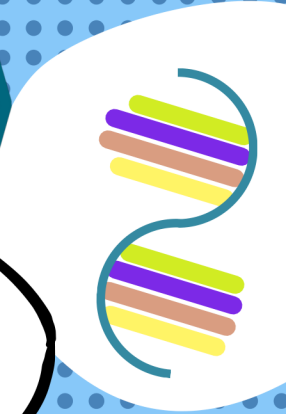
THESE VACCINES HELP YOUR IMMUNE SYSTEM TRAIN AGAINST COVID-19.

THEY WON'T CHANGE YOUR DNA, GIVE YOU COVID, OR CAUSE YOU TO TEST POSITIVE FOR COVID-19.



YOU NEED ONE JOHNSON AND JOHNSON VACCINE TO BE READY FOR COVID-19.

MODERNA, PFIZER, AND NOVAVAX VACCINES NEED TWO DOSES TO GET YOUR IMMUNE SYSTEM READY FOR COVID-19.



LET'S LEARN ABOUT COVID-19 BOOSTERS!



**WHAT ABOUT COVID-19 BOOSTERS?**



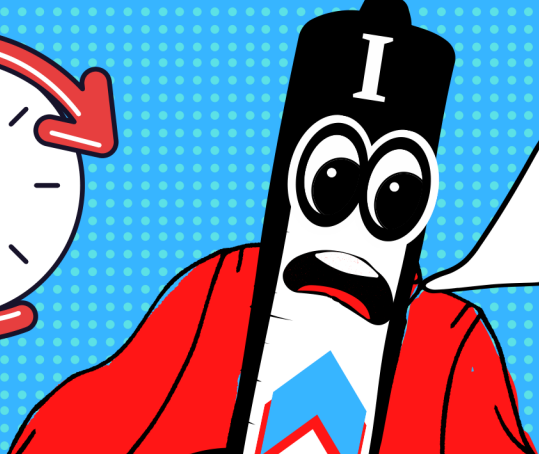
- AFTER GETTING THE COVID-19 VACCINE, THE BODY'S ABILITY TO FIGHT THE VIRUS DECREASES OVER TIME. IT'S LIKE TAKING A LONG BREAK FROM PLAYING BASKETBALL. YOUR BODY NEEDS TO START PRACTICING AGAIN. THIS IS WHERE BOOSTERS COME IN.
- ANYONE OVER THE AGE OF 5 IS ELIGIBLE FOR A COVID-19 BOOSTER.
- THE COVID-19 BOOSTERS USE THE SAME TECHNOLOGY AS THE COVID-19 VACCINES. SOME COVID-19 MRNA BOOSTERS HAVE BEEN UPDATED TO ALSO INCLUDE INGREDIENTS THAT WORK AGAINST THE NEWER OMICRON VARIANTS.
- AN MRNA BOOSTER IS RECOMMENDED OVER JOHNSON & JOHNSON.
- YOUR COVID-19 BOOSTER DOES NOT HAVE TO BE THE SAME BRAND AS YOUR COVID-19 VACCINES. YOU CAN MIX AND MATCH!
- SCAN HERE FOR UP TO DATE INFORMATION ON:

**COVID-19 BOOSTERS**  
[BIT.LY/CDC-COVID-BOOSTERS](https://bit.ly/cdc-covid-boosters)



**COVID-19 VACCINE SCHEDULE**  
[BIT.LY/CDCCOVIDVAX](https://bit.ly/cdccoovidvax)

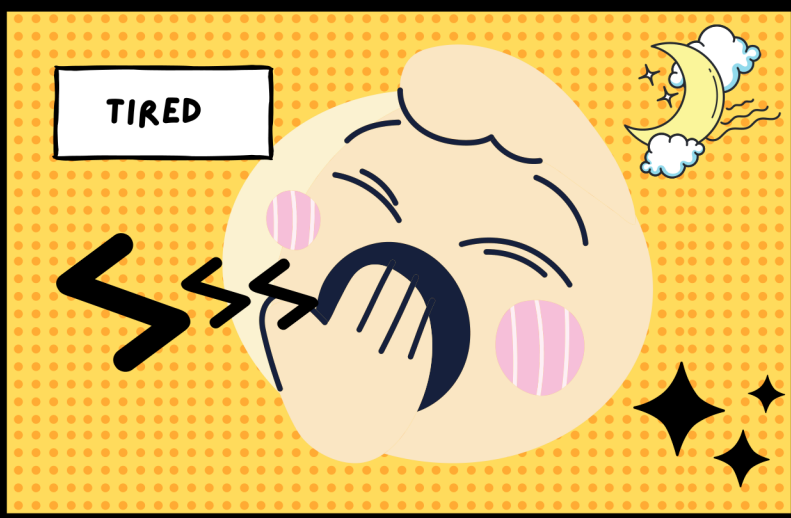




AFTER YOU GET A DOSE OF A COVID-19 VACCINE, YOU MAY FEEL...



PAIN AND/OR REDNESS ON THE ARM WHERE YOU GOT YOUR VACCINE



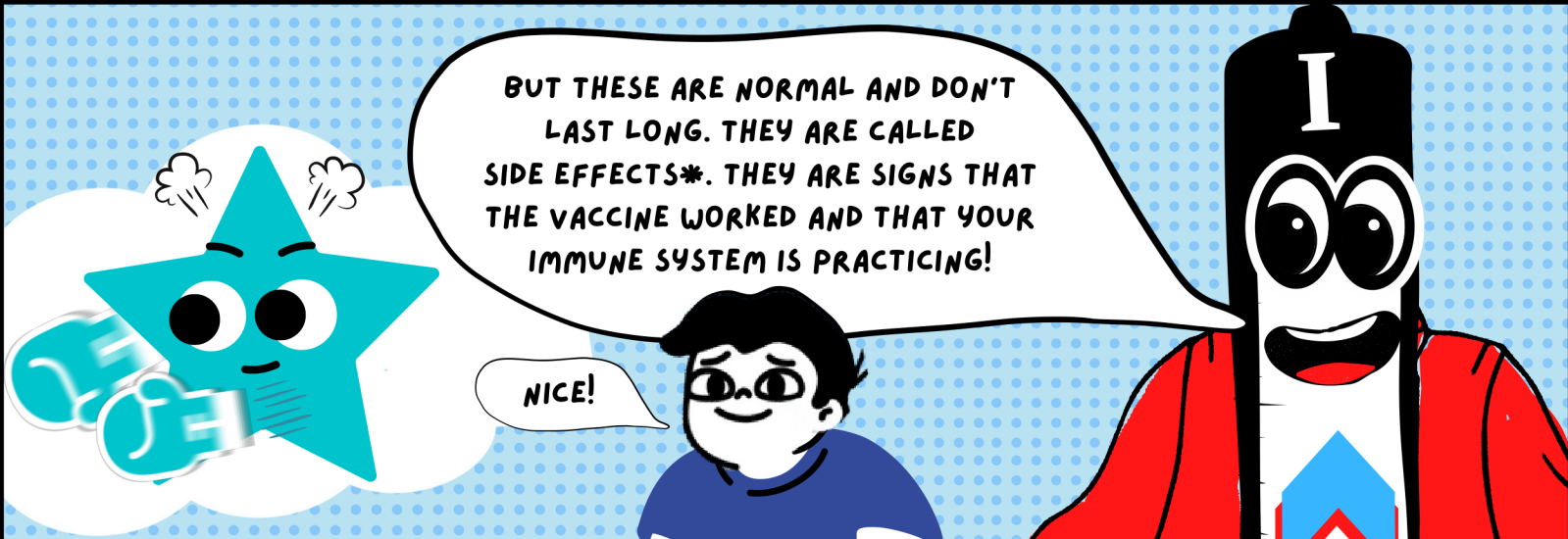
TIRED



A HEADACHE AND/OR A FEVER



CHILLS



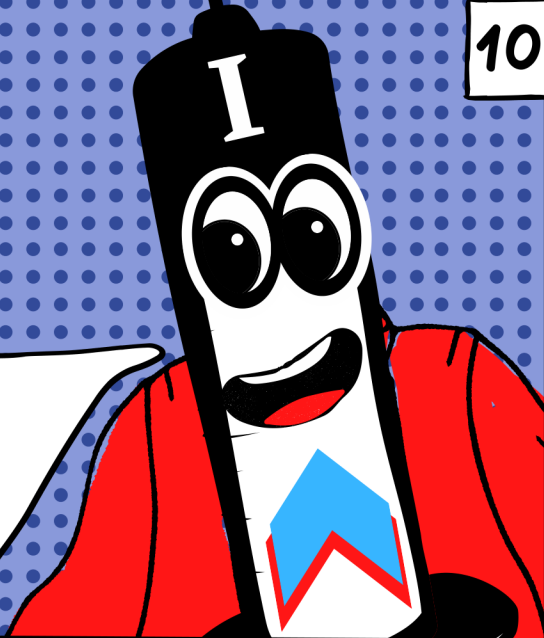
BUT THESE ARE NORMAL AND DON'T LAST LONG. THEY ARE CALLED SIDE EFFECTS\*. THEY ARE SIGNS THAT THE VACCINE WORKED AND THAT YOUR IMMUNE SYSTEM IS PRACTICING!

NICE!





BUT HOW DO DOCTORS KNOW IF VACCINES ARE SAFE?



DOCTORS AND SCIENTISTS SPEND SEVERAL YEARS TESTING VACCINES TO MAKE SURE THEY ARE SAFE AND WORK PROPERLY.

VACCINE SAFETY TEST - YEAR 4

		X	X	X	X
X	X	X			

VAX TESTS

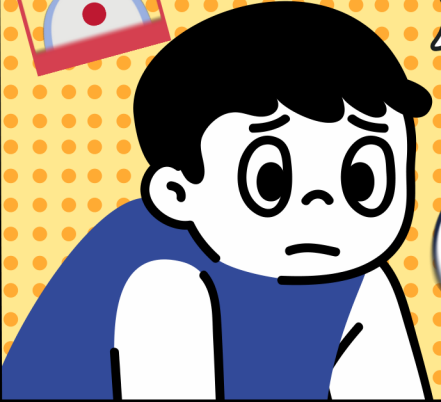
SAFETY DATA

10 YEARS LATER

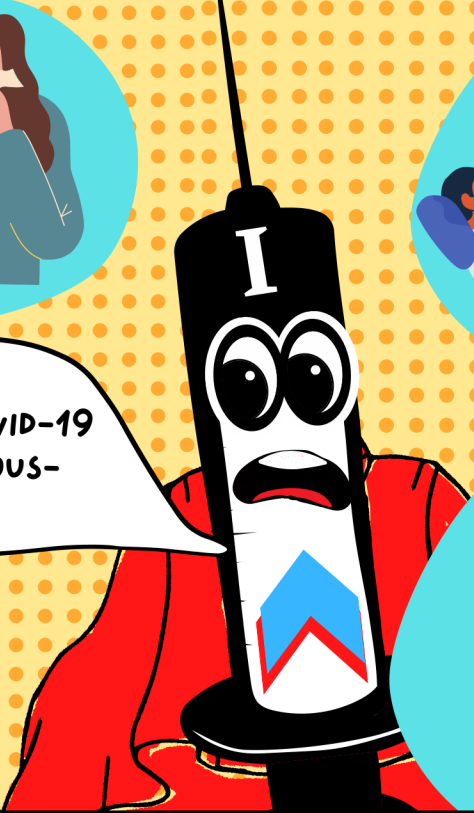
SCIENTISTS WILL TEST A VACCINE THOUSANDS OF TIMES BEFORE IT IS GIVEN OUT TO THE PUBLIC.



BUT HOW DID THE SCIENTISTS HAVE ENOUGH TIME TO MAKE SURE COVID-19 VACCINES WERE SAFE?



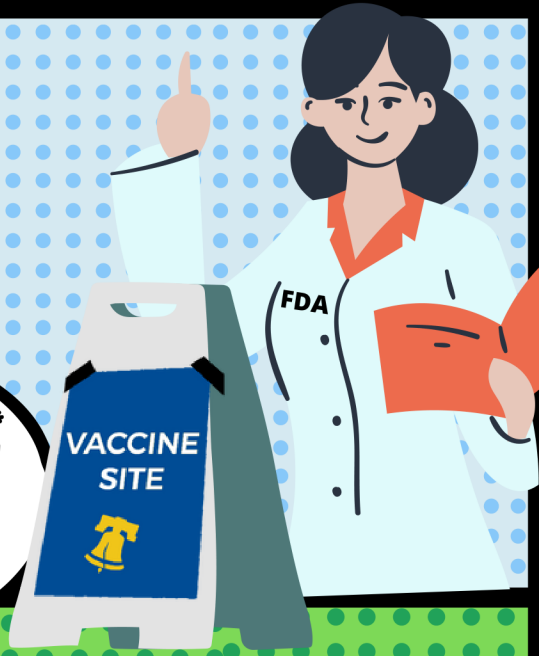
WELL BECAUSE THE COVID-19 VIRUS IS SO DANGEROUS-



MANY SCIENTISTS PUT TOGETHER THEIR SKILLS AND RESOURCES TO DEVELOP THE VACCINE AS QUICK AS POSSIBLE...

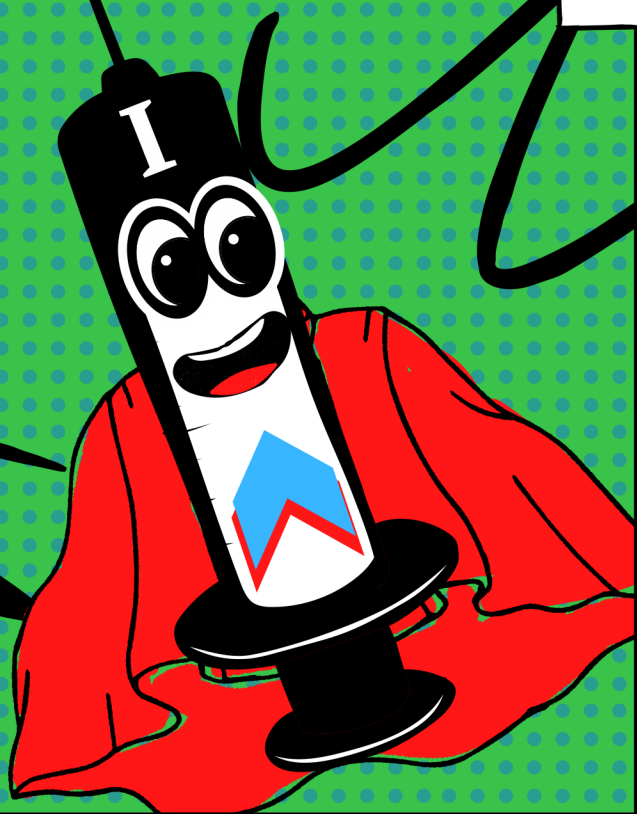
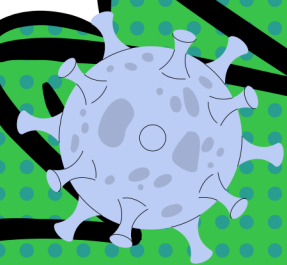
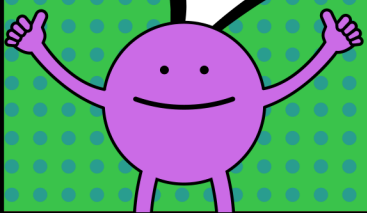


THE FOOD AND DRUG ADMINISTRATION\* (FDA) GAVE THE VACCINES EMERGENCY USE AUTHORIZATION (EUA),\* ALLOWING THEM TO BE GIVEN TO THE PUBLIC AS SOON AS POSSIBLE.



SO WHILE THE COVID-19 VACCINES CAME QUICK, THEY STILL WENT THROUGH INTENSE STUDY AND REACHED A HIGH STANDARD OF SAFETY. THE FDA STILL MONITORS THE VACCINES.

IT'S IMPORTANT TO GET ALL THE COVID-19 VACCINES THAT YOU'RE ELIGIBLE FOR TO PROTECT YOURSELF AND OTHERS, AS WELL AS BEATING COVID-19 AND ITS VARIANTS\*. THIS INCLUDES THE PRIMARY SERIES AND BOOSTER DOSES.



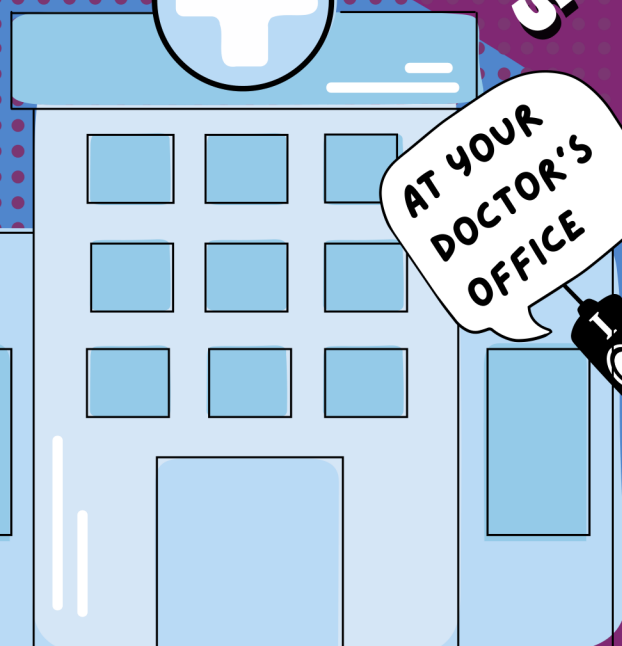
LOTS OF PEOPLE HAVE GOTTEN THE COVID-19 VACCINE ALL OVER THE WORLD!

#VAXXED



WHERE CAN YOU GET THE COVID-19 VACCINE?

DOCTOR'S



AT YOUR DOCTOR'S OFFICE



AT YOUR LOCAL HEALTH CENTER

HEALTH CENTER



PHARMACY



AT YOUR PHARMACY



HEALTH DEPARTMENT

OR ASK YOUR PARENTS TO CALL YOUR LOCAL HEALTH DEPARTMENT FOR MORE INFORMATION.





REMEMBER  
THE  
COVID-19  
VACCINE IS...

**FREE!**

THE COVID-19 VACCINE IS FREE FOR  
EVERYONE REGARDLESS OF IMMIGRATION OR  
HEALTH INSURANCE STATUS.

CHECK WITH YOUR LOCAL HEALTH  
DEPARTMENT FOR MORE INFORMATION.

ARE YOU READY FOR YOUR COVID-19 VACCINE ASH? IT'LL JUST BE A PINCH.

SURE AM!

OK, I'M GOING TO COUNT DOWN, THREE, TWO, ONE...

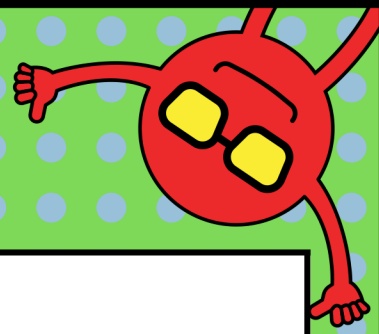
AND NOW YOUR IMMUNE SYSTEM IS READY TO FIGHT COVID-19!

I DID IT.

GO ASH!

ASH HASN'T SEEN THE LAST OF THE IMMUNIZER! IN THEIR NEXT ADVENTURE, ASH WILL LEARN ABOUT COVID-19 VARIANTS.

# GLOSSARY



**Antibodies**: A protein that attacks and sticks to the surface of bacteria and viruses to help you fight off a disease.

**Booster Shot**: An additional dose of a vaccine that is sometimes needed to 'boost' the immune system.

**COVID-19**: A new disease discovered in 2019 that has made people all over the world sick. Other names for COVID-19 include coronavirus disease 2019. "CO" stands for corona, "VI" stands for virus, and "D" stands for disease.

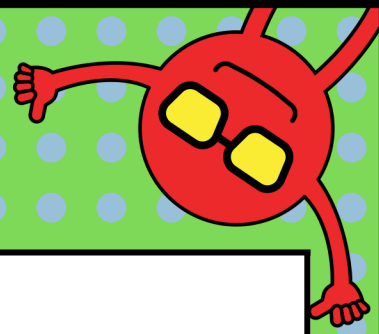
**Emergency Use Authorization (EUA)**: In an emergency, like COVID-19, the FDA quickly authorized the four COVID-19 vaccines using an EUA to help fight COVID-19 faster! However, the COVID-19 vaccines still went through intense study and reached a high standard of safety.

**Food and Drug Administration (FDA)**: The experts responsible for protecting the public health by making sure your food, prescription drugs, and medical devices are safe.

**FDA Full Approval**: A vaccine is given full approval when the FDA has even more scientific evidence to support the use of the vaccine. It's like the last stamp of approval and we can keep giving out the vaccines to fight COVID-19.

**mRNA**: Also known as "messenger RNA." It teaches our cells how to make a protein that will trigger an immune response inside our bodies.

# GLOSSARY



**Nucleus**: The main control center for the cell and acts like the cell's brain.

**Side effects**: A secondary and normal effect you get after you receive the COVID-19 vaccine.

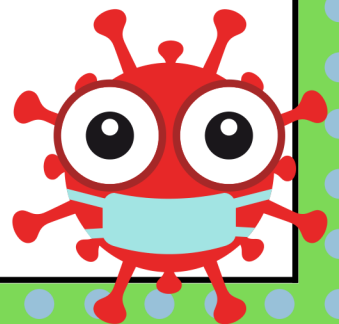
**Vaccine**: Medicine that helps your body to become immune to a disease caused by certain infectious diseases and germs.

**Variants**: Different forms of COVID-19 that have been appearing and circulating around the world.

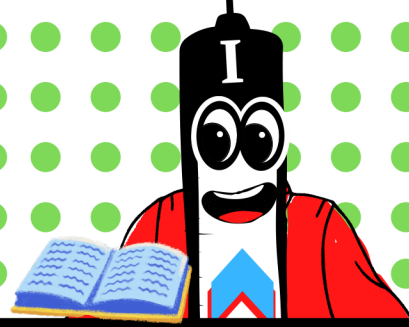
**Vector**: Anything that carries a disease. In a vector vaccine, it is a harmless version of a different virus.

**Viral Vector**: In a viral vector vaccine, it uses a vector to deliver important instructions to our cells.

**Virus**: A type of germ. They are very tiny and when they get inside your body they can make you sick.



# FACTS



- THE COVID-19 VACCINES DO NOT CONTAIN THE COVID-19 VIRUS ITSELF AND WILL NOT CAUSE YOU TO TEST POSITIVE ON COVID-19 TESTS.
- EVEN THOUGH THE COVID-19 VACCINES WERE AUTHORIZED QUICKLY, ALL FOOD AND DRUG ADMINISTRATION\* (FDA) APPROVED AND AUTHORIZED VACCINES ARE THOROUGHLY RESEARCHED AND CHECKED FOR SAFETY AND EFFECTIVENESS.
- EACH INGREDIENT IN A COVID-19 VACCINE SERVES A SPECIFIC PURPOSE. A LIST OF INGREDIENTS IN EACH COVID-19 VACCINE IS AVAILABLE AT:  
[CDC.GOV/CORONAVIRUS/2019-NCOV/VACCINES/SAFETY.HTML](https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety.html)
- THE CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) DEVELOPED THE SMART PHONE TOOL "V SAFE" FOR VACCINATED PATIENTS TO SELF MONITOR THEIR SYMPTOMS. THE TOOL IS AVAILABLE AT [HTTPS://VSAFE.CDC.GOV/EN/](https://vsafe.cdc.gov/en/)
- ANYONE WHO MEETS THE AGE REQUIREMENTS IS ELIGIBLE TO GET THE COVID-19 VACCINE. VERY FEW PEOPLE HAVE AN ALLERGIC REACTION TO PARTS OF THE VACCINE WHICH WOULD MAKE THEM INELIGIBLE. CURRENTLY, PFIZER AND MODERNA ARE AVAILABLE FOR PEOPLE 6 MONTHS AND OLDER, WHILE NOVAVAX AND JOHNSON & JOHNSON ARE AVAILABLE FOR PEOPLE 18 YEARS AND OLDER.
- TO FIND VACCINE PROVIDERS NEAR YOU VISIT [VACCINES.GOV](https://vaccines.gov), TEXT YOUR ZIP CODE TO 438829, OR CALL 1-800-232-0233. YOU CAN ALSO CHECK YOUR LOCAL PHARMACY'S WEBSITE TO SEE IF VACCINATION APPOINTMENTS ARE AVAILABLE. REMEMBER THE VACCINE IS FREE!
- FOLLOW YOUR LOCAL HEALTH DEPARTMENT FOR THEIR MOST RECENT COVID-19 VACCINE GUIDELINES. FOR THE MOST RECENT COVID-19 VACCINE GUIDELINES IN PHILADELPHIA, VISIT [PHILA.GOV](https://www.phila.gov).



# SECRET CODE PUZZLES



**UNSCRAMBLE THE WORDS TO SPELL OUT A WORD YOU'VE SEEN IN THIS COMIC BOOK!**

**ORVTCE**

---

**RSOIUNVARCIO**

---

**SKMA**

---

**SDOABNITIE**

---

**TANRVAI**

---

**IMEZMUIRN**

---

**AOMENDR**

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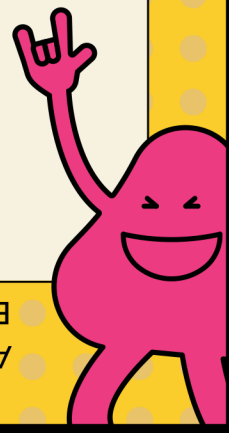
**MGCEYEENR**

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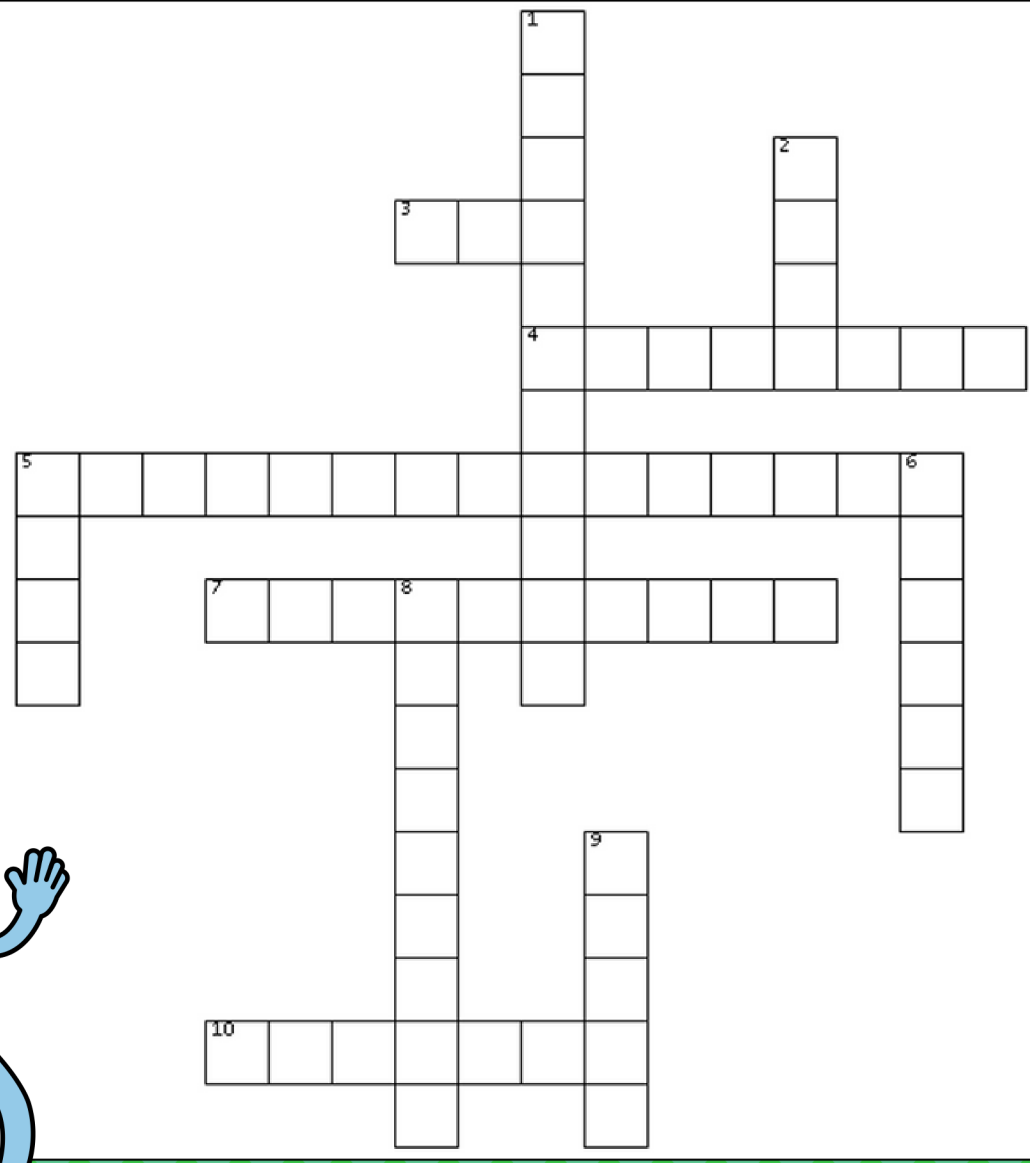
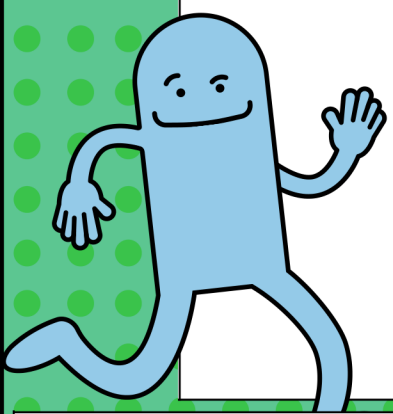
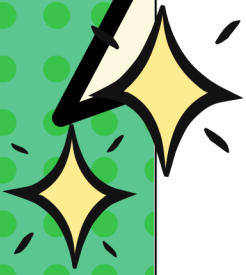
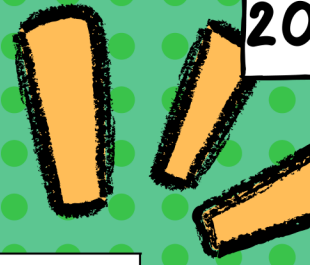
**CACENVI**

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ANSWERS: Vector, Coronavirus, Mask, Antibodies, Variant, Immunizer, Moderna, Emergency, Vaccine.



# CROSSWORD



**ACROSS**

- 3. Experts who make sure your food, medicine, and vaccines are safe.
- 4. Ash will learn about this in their next adventure!
- 5. Ash will be \_\_\_\_\_ two weeks after his second COVID-19 vaccine (two words!).
- 7. Helps fight COVID-19 and other diseases.
- 10. The FDA gave an Emergency Use Authorization to Johnson & Johnson; Novavax; Pfizer; and \_\_\_\_\_ (hint: it starts with an M).

**DOWN**

- 1. The technology used to develop the Johnson & Johnson vaccine.
- 2. The Moderna and Pfizer vaccines use this to give your immune system instructions on how to fight COVID-19.
- 5. The vaccine is \_\_\_\_\_ for everyone, regardless of immigration or health insurance status.
- 6. Ash schedules an appointment with them to learn more about vaccines.
- 8. The superhero who helps Ash learn about COVID-19 vaccines.
- 9. Ash's Sister.



Department of  
**Public Health**  
CITY OF PHILADELPHIA



4 SCRUFFY

**FOR MORE INFORMATION VISIT**  
**PHILA.GOV/COVID**

