The new type of vaccines were made too fast	
The development of the vaccines may seem fast and involve new technology, but they are safe to take Would you like me to explain more?	
Why are they using a new type of vaccine?	**The vaccines were made too fast**
While the approval of a vaccine made from **mRNA** (Pfizer and Moderna) is new The research behind using mRNA for medical purposes began more than a decade ago **![timeline comparing 1 year of Covid19 history to more than a decade of mRNA technology] (new_1.png)** Until recently, mRNA vaccines have simply been difficult to work with because: -They were delicate and quickly fell apart -They were difficult to deliver into human cells -Their efficacy was low	In March 2020, experts estimated that it would take approximately 12-18 months before we would have access to vaccines mrna Then the first COVID-19 vaccine was approved 9 months later While this might seem suspiciously fast, it’s important to keep in mind that estimates are hard to make correctly //What’s affecting it?

	The main unpredictable factors were the effects of -How applicable **SARS** research from 2002 would be for COVID-19 -How strong the international collaboration and emergency responses would be Which would you like to hear about first?	
//Then why are we using them?	//SARS research from 2002 (goes to research transfer section)	//International cooperation and emergency responses (goes to the section with that name)
After more than a decade of research, experts have found ways to overcome all of those problems This has caused a burst of interest in mRNA technologies in recent years mRNAs are even being studied as possible cancer therapies	During the outbreak of SARS in 2002, efforts were made to find a vaccine They began looking for a part of the virus that would make the best vaccine target **![a virus that looks like covid, but in a different color, being magnified] (fast_1.png)** This is a crucial part of vaccine research that can take years to optimize By the time researchers identified the **spike protein** as an ideal target, the outbreak ended and interest in this work was lost	The worldwide state of emergency caused by COVID-19 helped pour an incredible amount of expertise, collaboration, and funding into finding a vaccine This global level of engagement and concentrated effort made COVID-19 vaccine development everyone's priority

//That's amazing…!	//How does this apply to COVID-19?	//What about the approval process?
Yes indeed! Today's mRNA technology is effective, safe, and can be more easily mass produced than the vaccines that you're already familiar with Our 'new' vaccines are built on more than a decade of research and are just as safe as any other vaccine you've taken!	When it came time to develop a vaccine again Researchers hoped that the spike protein identified from SARS 2002 would also be a good target in its sister virus, SARS-CoV2, which causes COVID-19 And it worked! Years of COVID-19 research was quickened thanks to the effort made almost 2 decades ago	The average vaccine would have to finish all of their research and **clinical trials** before Health Canada or the **CDC** would even review them But in light of the pandemic, both governments started reviewing new data as soon as they were available, to make the review process more time efficient **![A timeline that highlights the parallel research a review process being used during the pandemic] (fast_2.png)** This method does not cut any corners, it simply gathers all of the resources in one place So it's only natural that its development and approval have been much faster than that of an average vaccine
	I hope this has helped explain the difference between the estimate and our reality	

How does it help **me**?	
The vaccine acts as a new, stronger layer of protection against COVID-19 All approved vaccines are safe and highly effective in preventing both symptomatic and severe COVID-19 cases Do you have any questions?	
Why should I take the vaccine?	Which vaccine would be best for me?
It can seem a difficult decision to make at first And it’s normal to be overwhelmed The important thing to remember is that All of the approved vaccines are highly effective at preventing **symptomatic** COVID-19 infection Which is why you should take the vaccine to keep yourself safe	With the current tight supply of vaccines worldwide You likely won’t get to choose once your time comes to get vaccinated
//What if I get COVID even after vaccination?	//You have a point

Even if you test positive for COVID-19, having taken the vaccine can mean spending your recovery without symptoms like this **![person with no symptoms, self isolating while eating popcorn and watching movie] (why_1.png)** And not like this **![person in bed with fever and not feeling well] (why_2.png)** Or like this **![person in hospital bed, on a ventilator system] (why_3.png)** Taking the vaccine is a crucial step in keeping yourself safe	It's also very difficult to compare their effectiveness, because of all the varying elements in clinical trials, such as: Where the studies were done When they were done What kind of new variants showed up during that time **![a globe is shown on the left, a tree in 4 different seasons is shown in the middle, 3 different colored and shaped spike proteins are shown on the right] (which_1.png)** And so on	
//Do I still have to social distance after?	//Why does that matter? (continues)	//Ah ok (jumps to 'good news' section)
Yes, you do I know it can be difficult to hear this... but you would still need to follow all current guidelines to minimize your risk of getting COVID-19 as much as possible	That's a great question! Let's start with an example... You may have heard that Johnson & Johnson's vaccine is only 66% effective, which is lower than Pfizer's 95%	
	//Yes...	

//If I still have to follow all the current COVID-19 guidelines, then what's the point of the vaccine?		
It's great that you've been following all of the guidelines! Think of the vaccine as an added layer of protection to keep you even safer The vaccine is highly effective at preventing symptomatic COVID-19 infections **![Animation showing a person in their underwear in the snow, feeling cold. Sweatpants are put on to symbolize avoiding crowds. Hat and scarf are put on to symbolize wearing your face mask. Boots symbolize quarantine, gloves mean washing your hands, a sweater equals social distancing. The person is not freezing anymore, but still cold. Finally a thick winter jacket symbolizes the vaccine. All of these clothes now keep the person protected against the cold.] (comm_jacketlabel.gif)**	But during Johnson & Johnson's trials, a new and highly contagious **variant** of COVID-19 was spreading, which didn't happen during Pfizer's trials To make comparison more difficult, Johnson & Johnson's vaccine has been shown to prevent **severe COVID-19** cases more effectively than Pfizer's vaccine does Even though Pfizer's vaccine is more effective at preventing **symptomatic COVID-19** cases **![scales showing that Johnson and Johnson is better at preventing severe disease, while Pfizer is better at preventing symptomatic disease] (which_2.png)**	
//That's an interesting analogy	//This is...really complicated //Do the numbers have any meaning then?	
Thank you!		

And just like a winter storm, you can choose to go shovel snow without a winter jacket **![person shoveling snow without a winter jacket and shivering] (comm_shovel.png)** But you will get very cold, very fast, and that is dangerous for your health **![the same person is now an giant icicle] (comm_shovelicicle.png)**	
//I see...	
And while we don't yet know how long this jacket will last, **![there is a hole in jacket, the filling is falling out] (comm_jackethole.png)** Or if one size really does fit all, **![smaller person with the same large jacket, obviously ill fitting] (comm_smallpersonjacket.png)** Until we get better jackets, wearing the one that we do have is definitely better than not having one at all. **![freezing person next to person with jacket] (comm_smallfreezingjacket.png)**	
//Hmm...	

And just like how the jacket protects you from the worst of the cold, taking the vaccine helps lower the risk of symptomatic COVID-19 disease If enough people take the vaccine and are protected from symptomatic COVID-19, then this will lessen the current burden on the health care system **![Health care professional with many filled patient beds behind them, frowning] (why_10.png)** **![Health care professional with less filled patient beds behind them, smiling] (why_11.png)** So we'll have more resources left to better care for people with cases of **severe COVID-19**	The main takeaway from these numbers is that all the vaccines that have been approved are highly effective And that getting any vaccine will give you more protection than not getting one at all **![Chances of getting COVID19 is low for those who have taken the vaccine, but higher for those who are not vaccinated] (which_3.png)** If you have allergy concerns, please take a look at the vaccine ingredients with your health care provider before getting vaccinated	
	//Maybe i'll wait	//Ok sounds good (ends convo)

	![Animation showing a person in their underwear in the snow, feeling cold. Sweatpants are put on to symbolize avoiding crowds. Hat and scarf are put on to symbolize wearing your face mask. Boots symbolize quarantine, gloves mean washing your hands, a sweater equals social distancing. The person is not freezing anymore, but still cold. Finally a thick winter jacket symbolizes the vaccine. All of these clothes now keep the person protected against the cold.] (comm_jacketlabel.gif) Although one size may not fit all and future jackets may be warmer, **![a line of jackets that are different in size and shape] (comm_lineofjackets.gif)** The storm isn't stopping anytime soon. If you are offered a jacket, you should definitely take it now. **![30cm of snow falls at once on the person] (comm_30cm.png)** Since we don't yet know for how long the vaccine's effects last, you might need to have booster COVID-19 vaccines in the future.	

	By then you'll be able to pick and choose!	

FINISHED UP TO HERE SO FAR - WILLOW

Do the vaccines work?	
All the vaccines approved so far are considered to be highly effective against preventing severe COVID-19 disease Would you like me to go into details?	
Does the vaccine work on variants?	What does 95% effectiveness mean exactly
It can be distressing to learn that COVID-19 is changing into new **variants** when we've just begun to deal with the original version... And emerging evidence seems to show that vaccines are less effective against these new variants	Hmm, this can be a tricky one Let's start with an important point A 95% effectiveness does NOT mean that if 100 people take the vaccine, it will work for 95 of those people, and have zero effect on the other 5
//Shouldn't it work the same against all COVIDs?	//Ohhh //I knew that
The COVID-19 vaccines work by safely helping your **immune system** recognize the **spike protein** **![a spike protein, shaped like an arrow is shown] (variant_1.png)** So that your body will know to quickly identify and destroy anything that has that kind of spike proteins in the future **![COVID-19 virus is shown, with the spike protein emphasized] (variant_2.png)**	Instead, it means that if you're vaccinated, you'll have 95% less chance of getting a **symptomatic** COVID-19 case compared to someone who hasn't gotten a vaccine **![bar GRAPH of chances of getting COVID-19] (95_1.png)**

//Sure		//So which vaccine is more effective?
Unfortunately, it only recognizes the version of the spike protein that the vaccine has the recipe for... **![spike protein in 1 color, with a syringe underneath it] (variant_3.png)** So if the variant spike protein changes enough that it's not immediately recognizable to a vaccinated immune system **![spike proteins in different colors and a bit distorted appear next to the original] (variant_4.png)** Then the immune system can take longer to launch an attack, giving the virus time to multiply **![immune cell eats the original spike protein and 1/3 of the new variant and leaves, as the remaining 2 variants proliferate] (variant_5.png)**		It's actually very difficult to compare their effectiveness, because of all the varying elements in clinical trials, such as: - where the studies were done - when they were done - what kind of new variants showed up during that time and so on **![a globe is shown on the left, a tree in 4 different seasons is shown in the middle, 3 different colored and shaped spike proteins are shown on the right] (which_1.png)**
//So what's the point of taking the vaccine then?	//That's unfortunate	//So what are the difficulties in our case?
You still need to be protected from the original COVID-19 viruses, which are still actively spreading And having some protection against new variants is still much better than having no protection at all		For example, you may have heard that Johnson & Johnson's vaccine is only 66% effective, which is lower than Pfizer's 95% But during Johnson & Johnson's trials, a new and highly contagious variant of COVID-19 was spreading, which didn't happen during Pfizer's trials

		//Ah right :(
		To make comparison more difficult, Johnson & Johnson's vaccine has been shown to prevent **severe COVID-19** cases more effectively than Pfizer's vaccine does Despite being less effective at preventing **symptomatic** COVID-19 cases **![scales showing that Johnson and Johnson is better at preventing severe disease, while Pfizer is better at preventing symptomatic disease] (which_2.png)**
		//This is...really complicated //Do the numbers have any meaning then?
		Even if the numbers might differ between vaccines They are all proven to work and are highly effective at keeping you safe from symptomatic COVID-19

Tell me about clinical trials	
COVID-19 vaccine testing was completed properly following regulations, with no simplifications/shortcuts in the process Would you like to learn more about clinical trials?	
What are clinical trials?	Were people like me included in the clinical trials?
Great question! Clinical trials are how pharmaceutical companies test out their products in humans for safety and effectiveness before the product reaches the market There are many other tests that a product must pass before it gets approved for **human trial**	That's a very good question to ask, since the clinical trials unfortunately do not tend to have equal representation for everyone Which clinical trial **demographic** would you like to see first?

//How does it work for the vaccine then?	//Pfizer
	//Moderna
	//Johnson & Johnson
	//AstraZeneca
	![infovis for each] (lmao there's like, 15 pics)

After researchers find a vaccine that might work, they test it extensively in the lab and in animal models **![many vaccines, greying out as they fail] (trials_1.png)** If the vaccine passes all of these tests, researchers must submit a request for human trials This request will be examined by a team of experts, because there are many rules in place to make sure that human trials are safe If the vaccine gets approved, it then moves onto clinical trials, which have 3 phases	I hope this has been helpful to see Both Canada and the US state that the vaccine is safe and effective, regardless of ethnicity or sex	
//How do they work?		
Phase 1 starts with a small group of 10s of volunteers, where important concerns such as safety, side effects and dosage are tested **![10 silhouettes of people, with safety, side effects and dosage written next to them] (trials_2.png)** This is to make sure the vaccine is given in the safest way possible, before bringing more people on board		
//What happens next?	//What if i have a pre-existing condition or if I'm pregnant?	//Ok

If everything goes well, it then moves onto phase 2 With 100s of volunteers, bigger questions can be addressed Like “how effective is the vaccine” and “how safe is it for everyone” **![100 silhouettes of people, the ones that are further away are faded out, with effectiveness and safety for everyone written next to them] (trials_3.png)**	Canada and the US recommend against vaccination only for children under 16 and people with a history of **severe allergies** or allergy to vaccine ingredients b	
//Oh I see		
If the vaccine reaches phase 3, 1000s of volunteers will be recruited So that they can get a better idea of how well the vaccine would work **![1000 silhouettes of people, the ones that are further away are faded out, with effectiveness and safety for diverse groups of people written next to them] (trials_4.png)**		
//That’s reassuring		
I’m glad you feel the same way! In each phase, researchers continuously make sure the vaccine is safe and effective		

How do the vaccines work?			
It can be intimidating to hear new words when trying to learn about the different types of vaccines I can explain both types of vaccine in detail, [which] would you like to hear about?			
Tell me about the Pfizer and Moderna (mRNA) vaccine		Tell me about the Johnson & Johnson and AstraZeneca (viral vector) vaccine	
What's in the vaccine?	How does the vaccine work?	What's in the vaccine?	How does the vaccine work?

This is the COVID-19 virus **![picture of COVID19 cutaway] (comm_COVIDcutaway.png)** To make the vaccine, scientists took off all the parts that are useless for making the vaccine and all the **genetic material** **![RNA falls from the COVID19 into the garbage] (in_mrna_2.gif)** And the shell **![viral envelope falls into the garbage] (in_mrna_3.gif)**	Once you get the shot, the vaccine enters your nearby cells and the mRNA is released into those cells The mRNA stays in the cytoplasm, a gel-like liquid that fills the cell, away from the tightly protected nucleus that houses your **DNA** **![the mRNA vaccine is shown approaching the cell, only the mRNA enters the cell, it does not interact with DNA] (mrna_work_1.png)**	This is the COVID-19 virus **![picture of COVID19 cutaway] (comm_COVIDcutaway.png)** To make the vaccine, scientists took off all the parts that are useless for making the vaccine Like the shell **![viral envelope is gone] (in_vv_2.gif)** And the spike protein that the virus uses to enter your cells **![Spike protein falls from the COVID into the garbage] (in_vv_3.gif)**	Once you get the shot, the vaccine enters your nearby cells and the viral **vector vaccine** is released into your cells Because your protein making machinery cannot read **DNA** **![3 ribosomes are shown, 1 in red because it cannot read DNA, 1 in red because it cannot read RNA, and 1 in green because it can read mRNA] (MOA_comm_language.png)** The viral vector then travels to the **nucleus** And deposits the DNA segment containing the instructions to make **spike proteins** inside it **![Viral vector vaccine is shown approaching the cell, entering it, and deposits the DNA within it into the nucleus where your DNA is] (vv_work_2.png)**
//I'm following	//What does mRNA do here?	//I'm following	//How do they get made then?

Then they isolated the spike protein that the virus uses to enter your cells **![only the spike protein in the original COVID is left] (in_mrna_4.png)** Wrote down a recipe that would let them remake the spike protein **![spike protein is written on a recipe] (in_mrna_5.png)** And then threw out the spike protein **![spike proteins fall into the garbage] (in_mrna_6.gif)**	The mRNA is a recipe written in a language specifically for your cell's protein making machinery, known as ribosomes **![ribosomes is shown as a blob with a slit on top for mRNA to be inserted] (MOA_comm_ribo.png)** Ribosomes translate and read this recipe to make spike proteins, which are then displayed on the outside of the cell **![a ribosome takes in mRNA instructions and prints out spike proteins] (MOA_comm_printing.gif)**	And all the **genetic material** **![RNA falls from the COVID virus into the garbage] (in_vv_4.gif)** Except the part that holds the spike protein blueprint	There, it does not interact with your own DNA But rather borrows your DNA's copy machines and makes copies of itself in mRNA format Which is a language specifically made to be read by your cell's protein making machinery known as ribosomes
//What's in the recipe then?	//Okay, what's next?	//Okay, what's next?	// But the vaccine DNA is still inside of me...
What they kept was the recipe on how to make that spike protein They wrote this recipe using mRNA The preferred language of your cell's protein making machinery	Your patrolling immune system will see these spike proteins on the outside of your own cells They know that these spike proteins are not a natural part of your body, and that they need to be eliminated	They translated that viral genetic material into **DNA** And made copies of that segment Wrapped it in a modified **empty virus shell** that will help deliver this spike protein recipe to your cells	there are DNA protection proteins inside the nucleus who find and destroy segmented DNA **![proteins looking chewing away segmented DNA] (vv_work_3.png)** So the spike protein DNA will be erased from your system in a couple of days

![3 ribosomes are shown, 1 in red because it cannot read DNA, 1 in red because it cannot read RNA, and 1 in green because it can read mRNA] (MOA_comm_language.png)	**![immune response is shown by angry immune cells looking at the spike protein on the outside of a human cell] (MOA_comm_response.png)** Your immune system will now try to make antibodies for this spike protein	**![DNA is shown in a 6 sided virus shell with pointed extensions] (in_vv_5.png)** And that's essentially what the viral vector vaccine contains	
//How do they get inside me?	//What are antibodies?		//I see
To make sure the mRNA can get into your cells, scientists put the mRNA into a protective lipid envelope **![mRNA is in a ball of small fat droplets] (in_mrna_8.png)** And that's essentially what the mRNA vaccine contains	Antibodies are like giant sticky neon signs in your immune system, and are very picky about what they stick to **![antibody is a neon 'destroy this' sign] (MOA_comm_antibody.png)** Making the right sign that will stick to the spike protein will take time In a real infection, it's during this time period that the virus will multiply and take over your body **![timeline showing increasing viral load as time progresses] (mrna_work_6.png)**		Meanwhile, the new mRNA then leave the nucleus and find the protein making machines that translate them into spike proteins Which are then displayed on the outside of the cell **![a ribosome takes in mRNA instructions and prints out spike proteins] (MOA_comm_printing.gif)**
	//Oh no...		//Okay, what's next?

	But once the antibodies are mass produced, all the spike proteins in your body will be methodically tagged and destroyed **![antibody sticking to the spike proteins on COVID-19] (MOA_comm_tagged.png)**		Your patrolling **immune system** will see these spike proteins on the outside of your own cells They know that these spike proteins are not a natural part of your body And that they need to be eliminated **![immune response is shown by angry immune cells looking at the spike protein on the outside of a human cell] (MOA_comm_response.png)** Your immune system will now try to make antibodies for this spike protein
	//Good to know, but what about the mRNA still inside of me?		//What are antibodies?
	In your cells, the mRNA from the vaccine will be completely **degraded** after a couple of days Leaving nothing but the memory of how to make the correct antibody **![mRNA fades while antibody appears] (mrna_work_8.png)**		Antibodies are like giant sticky neon signs in your immune system, and are very picky about what they stick to **![antibody is a neon ‘destroy this’ sign] (MOA_comm_antibody.png)** Making the right sign that will stick to the spike protein will take time

			In a real infection, it's during this time period that the virus will multiply and take over your body But once the antibodies are mass produced All the spike proteins in your body will be methodically tagged and destroyed **![antibody sticking to the spike proteins on COVID-19] (MOA_comm_tagged.png)**
	//Ah okay		//Got it, but what about the DNA and mRNA bits that are still inside of me?
	When a real infection comes, your immune system will remember how to make the correct sticky neon signs **![Timeline of antibody production after COVID19 infection with and without the vaccine. Production of antibody happens right after infection in those who are vaccinated, this is compared to the few weeks it might take for someone who is not vaccinated] (MOA_comm_timeline.png)**		In your cells, the DNA and resulting mRNA from the vaccine will be completely **degraded** after a couple of days Leaving nothing but the memory of how to make the correct antibody **![mRNA and DNA fade while antibody appears] (vv_work_8.png)**

	And immediately destroy the invaders, before the virus can establish itself		
			//Ah okay
			When a real infection comes Your immune system will remember how to make the correct sticky neon signs **![Timeline of antibody production after COVID19 infection with and without the vaccine. Production of antibody happens right after infection in those who are vaccinated, this is compared to the few weeks it might take for someone who is not vaccinated] (MOA_comm_timeline.png)** And immediately destroy the invaders, before the virus can establish itself

Do I **need** it?	
We encourage anyone who can get the vaccine to get it. Regardless of your occupation or previous experience with COVID-19 Would you like me to elaborate?	
I already had COVID, do I still need the vaccine?	If I'm working from home anyway, do I still need it?
Yes, both Health Canada and the **CDC** strongly recommend that those who have already had COVID-19 still get vaccinated You gain some COVID-19 immunity naturally when you've recovered from a COVID-19 infection But we still don't know how long that lasts	The short answer is yes Because you will still eventually come into contact with people Whether it's a grocery store worker, a family member, or even someone who doesn't respect social distancing **![image of people not social distancing properly] (home_1.png)** You will need to be protected against COVID-19
//Right...	//That makes sense
And there have been people who have tested negative for COVID-19 after recovering from a first infection, but then tested positive again **![timeline of infection, recovery, and another infection] (already_1.png)** So taking the vaccine is simply the safer choice to make	And although delays in vaccination are possible and to be expected Everyone who can safely take the vaccine should take it when it becomes available to them!

//Okay	
But please make sure all of your COVID-19 symptoms have stopped before attempting to get a vaccine You can contact a vaccination clinic near you to learn about local guidelines	

Should I **take** it?					
Millions of people across North America have already been vaccinated Everyone other than children under 16 and those with severe allergy to vaccine are eligible for vaccination Would you like to know more?					
I'll wait to see how other people react to it first	How many people have been vaccinated?		Who shouldn't get the vaccine		
It's good that you're being cautious but are still open to taking the vaccine, instead of refusing it all together It can be scary to be bombarded with complex information and then have to make a decision right away *smile	Data on vaccination numbers are constantly changing Here is the vaccination progress on March 05, 2021 **![Infographic showing Canada has vaccinated 1.47% of its population while the US has vaccinated 8.21% as of March 05 2021] (many_1.png)**		The only groups who are discouraged from getting the vaccine are children under 16 and people who are **severely allergic** to the vaccine ingredients		
//It really is...	//When will everyone be vaccinated in Canada?	//When will everyone get vaccinated in the US?	//Why can't children take them? (goes to section below)	//Tell me more about people with allergies	//Ok, next question please
If you're not high in the list of priorities for the COVID-19 vaccine It's likely that you'll have to wait no matter what	Experts anticipate that everyone will be vaccinated by September of 2021	President Biden has said that there should be enough vaccines for every US adult by May 2021	That's because children were not included in any of the clinical trials	Those who have had an **allergic reaction** that is severe	

But if it's available for you, you should take the vaccine just as I did months ago Healthcare practitioners are prioritized for the vaccine, so all of my colleagues have received at least 1 dose to date **![Dr. Joy with one sleeve rolled up, with a bunch of other healthcare professionals with their sleeve rolled up] (wait_1.png)**		Everyone should be vaccinated in a few months after that		**![a person is shown having anaphylaxis, with facial and throat swelling as well as hives] (shouldnt_1.png)** Or fast (within 4 hrs) **![a clock shows 4hrs and a person is shown with swelling and hives] (shouldnt_2.png)** In response to any of the ingredients listed in the vaccines, should not get vaccinated	
//Oh wow	These timelines are estimates only, so keep an eye out for new information if this interests you!		//ah ok (goes back to allergy?) //why weren't they included?	//What do they do then?	
By the time you'll have the choice to vaccinate, tens of thousands of healthcare practitioners across Canada and the US will have received their vaccines. **![Dr. Joy with one sleeve rolled up, with even more other healthcare professionals**			They weren't included for 3 main reasons: 1. Children under 16 are much less likely to develop **severe COVID-19** 2. Setting up clinical trials for children is very hard because	Those who have a history of s**evere allergy** and **anaphylaxis** unrelated to vaccine ingredients should talk to their doctor before getting vaccinated	

with their sleeve rolled up than before] (wait_2.png)		there are many more regulations in place, meant to keep them extra safe 3. A child's developing immune system varies a lot with age, making clinical trials even more complex		
//Nice!				
These health experts trust in the scientific process, and in the safety and effectiveness of the vaccine We know that the mild side effects we'll experience is a very small price to pay to protect ourselves from **symptomatic COVID-19** infections **![a healthcare professional with mild fever and red around the side of injection, giving a thumbs up] (wait_3.png)** I hope this helps ease your hesitancy about taking the vaccine				

What's the bigger picture?	
We are sure that the vaccines are safe and highly effective against symptomatic COVID-19 But there are still things that we don't yet know about the vaccine Would you like me to answer 2 last questions? (I'm at the end of my break time sadly...)	
When will we reach herd immunity?	What don't we know about the vaccine?
Herd immunity is a very important milestone for any vaccine! But unfortunately, we just don't know yet Experts are working very hard to uncover what percentage of the population would need to get vaccinated in order to reach herd immunity	There are things about the vaccine that we don't yet have solid data for, such as: How effective it is at preventing **asymptomatic** COVID-19 **![questions mark with person shrugging] (idk_1.png)** How effective the vaccine is at preventing **transmission** **![from herd immunity: 2 people shrugging](herd_2.png)**
//Why don't they know yet?	//Right, these are big questions. Anything else?
Well, there's a lot that we don't yet know about the vaccine, such as how long the COVID-19 immunity lasts **![red question mark on a calendar] (herd_1.png)** Or if it has an effect on **transmission**	And how much of the population needs to be vaccinated to reach **herd immunity** **![from herd immunity: questions marks above a group of people, most of them in one color, some of them in another color] (herd_3.png)**

![2 people shrugging] (herd_2.png) So without this valuable information, it's very hard to calculate when we'll reach herd immunity. **![questions marks above a group of diverse people, most of them in one color, some of them in another color] (herd_3.png)** Stay tuned and keep an eye out for new information!	Whether the current vaccines will be as effective against **COVID-19 variants** **![COVID-19 virus, in different colors] (idk_4.png)** How long the immunity against COVID-19 lasts **![from herd immunity: question mark with calendar](herd_1.png)**
	//Sounds like… there are more?
	I'm glad you are open to hear all aspects. Sure, just couple more off top of my head Such as whether we'll need **booster shots** of the vaccine **![question mark with many syringes] (idk_6.png)** And if the vaccine is safe for children, or for people with specific health concerns such as **severe allergies** **![question mark with child and other silhouettes of people in different colors] (idk_7.png)**
	//Wow that's a lot //Is there anything that we do know...?
	That list can seem pretty overwhelming!

	But the important thing to remember is that all the vaccines have been proven to be very effective at preventing **symptomatic** COVID-19 cases
	//Okay
	This helps lower the total amount of people who will have to be hospitalized or who will experience **severe COVID-19** infections **![2 hospitals, one with many people, one with less people] (idk_8.png)** So if you get infected by COVID-19, the difference between having taken the vaccine or not could be spending your recovery like this **![person with mild fever, looking bummed] (idk_9.png)** Or like this **![person in hospital bed, on a ventilator] (idk_10.png)**