AIM: HOW CAN WE USE TEXT BASED EVIDENCE TO JUSTIFY OUR ARGUMENT "FOR OR AGAINST IMMUNIZATION?" **GRADE:8**

TEACHER:

OBJECTIVES(S) STATE STANDARDS: S.W.B.A.T.

1. UTILIZE A KWL CHART TO DISSECT THE ARTICLE
2. IDENTIFY 5 FACTS FROM THEIR ARTICLE OF CHOICE
3. COMPLETE THE KWL CHART OF WHAT THEY LEARNED!
4. WEEK 3 TIMELINE (HUMAN BODY AND HEALTH)

UNIT ESSENTIAL QUESTION(S):

HOW DOES LIFE ON EARTH CONTINUE AND ADAPT IN RESPONSE TO ENVIRONMENTAL CHANGE?"

MOTIVATION

- DISCUSS DOCTOR VISITS
- IF THEY GO, HOW OFTEN AND WHAT HAPPENS

MATERIALS

- Reading assignments
- Assignment sheet
- Highlighters

INITIAL ACTIVITY/DO NOW

Explain, in paragraph form, why we should or shouldn't receive shots from the doctor in order to come to school?

MINI LESSON

1. REVIEW THE DO NOW AND RELATE TO THE TWO ARTICLES THEY WILL BE READING
2. DISCUSS THE ASSIGNMENT AND REVIEW THE EXPECTATIONS
3. DEMO AND FILL OUT AS A CLASS "WHAT I KNOW SECTION"

WORK PERIOD

1. BREAK THEM INTO GROUPS BY COUNTING OFF #'S1-3
2. ALLOW THE MATERIALS COLLECTOR TO GET ITEMS
3. GIVE STUDENTS 30 MINUTES TO READ THE ASSIGNMENT AND WORK ON CERTAIN SECTIONS WITHIN THE ASSIGNMENT
4. WALK AROUND THE ROOM TO AID THE GROUPS, PROVIDE OVER THE SHOULDER CONFERENCES AND INDIVIDUALIZED FEEDBACK IN A TIMELY FASHION
5. LESSON EXTENSION: STUDENTS WILL DEBATE THEIR FINDING THE FOLLOWING DAY AND UTILIZE TEXT BASED EVIDENCE TO SUPPORT THE STANCE.

CLOSING/SUMMARY/SHARE OUT

- Review and discuss "what we have learned and what I still want to find out" sections

VOCABULARY TO KNOW

Differentiated by group

LESSON VARIANCE FOR ADVANCED OR STRUGGLING

- Students choose which sections of the report to work on

HOMEWORK AND REMINDERS:

Work on components of assignment that were not completed in class

Co-Op Roles and Tasks

Coordinator/Observer/Checker is responsible for supervising the group, making sure that each member performs his/her task, monitoring progress, observing tasks, giving encouragement, checking the work, and keeping the group on track.

Reader is responsible for reading instructions to the group.

Materials Person/Writer is responsible for collecting and returning all group materials and filling in the groups answer on the provided space on the board and/or poster paper.

Everyone is responsible for knowledge gained from the group's task. You may switch roles as long as the group agrees.

Materials: (for each group)

Highlighters
Article to read

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Thomas Mancuso, Assistant Principal - Collette Marshall, Assistant Principal

NAME:
DATE:
ARTICLE NAME:
AUTHOR:
PAGE #:

STAPLE ARTICLE TO PACKET UPON COMPLETION

1) BEFORE YOU READ YOUR ARTICLE OF CHOICE USE THE "WHAT I KNOW COLUMN TO LIST 3 THINGS YOU KNOW ABOUT THE ARTICLE. THEN LIST 3 QUESTIONS YOU HAVE ABOUT THE ARTICLE IN THE "WHAT I WANT TO FIND OUT" COLUMN

WHAT I KNOW	WHAT I WANT TO FIND OUT
1	
2	
3	

2) SCAN THE ARTICLE AND READ ALL SECTION TITLES, BOLD WORDS, TABLES , GRAPHS AND CAPTIONS. THEN WRITE DOWN 5 FACTS YOU DISCOVERED, ABOUT THE ARTICLE, IN THE CHART BELOW.

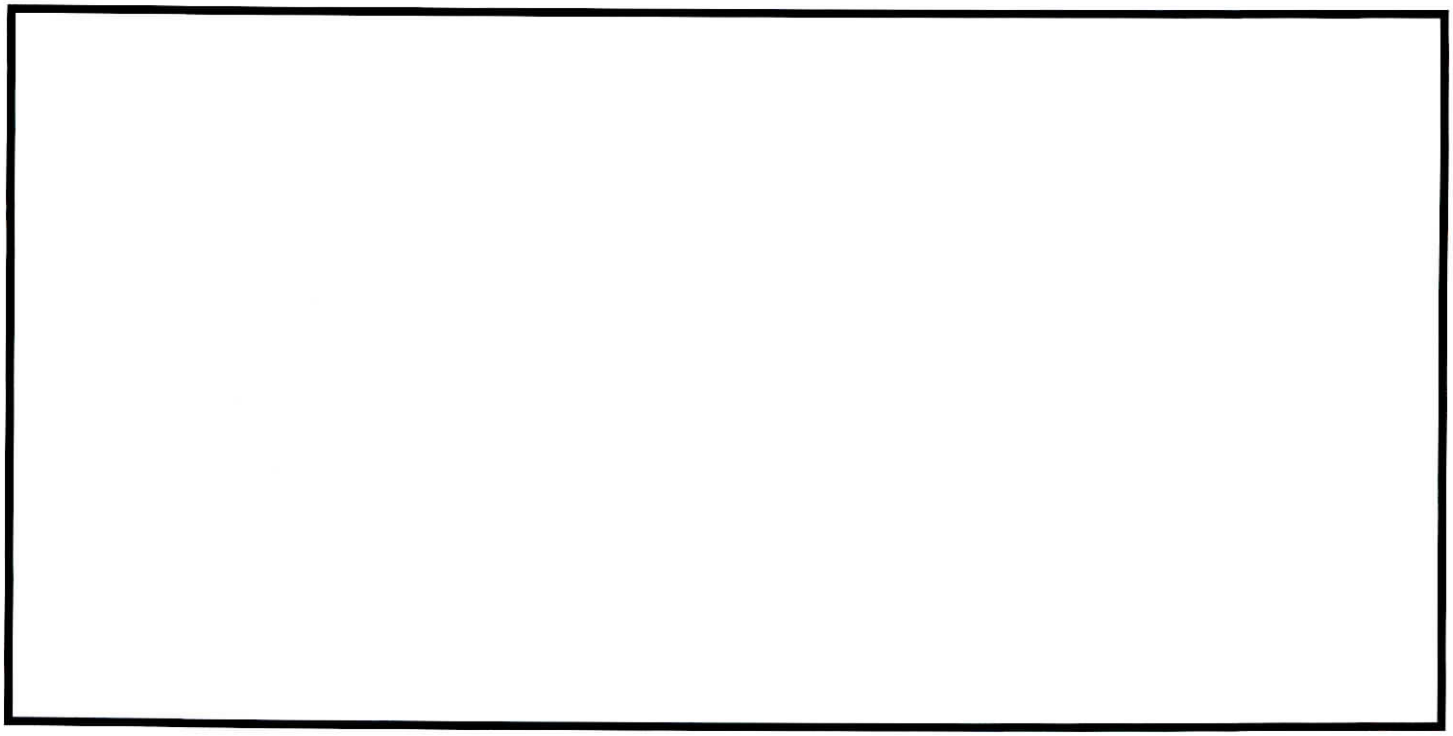
	FACTS
1	
2	
3	
4	
5	

3) WRITE A PARAGRAPH GIVING YOUR SYNOPSIS OF THE ARTICLE.

4) AS YOU READ THE ARTICLE CREATE A LIST OF 10 UNKNOWN VOCABULARY WORDS AND THEN DEFINE THEM USING A DICTIONARY.

UNKNOWN WORD	DEFINITION
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

5) CONSTRUCT A DIAGRAM TO HELP YOU UNDERSTAND AND REMEMBER THE ARTICLE. MAKE SURE YOU LABEL EACH SECTION.



6) IN THE "WHAT I WANTED TO FIND OUT" COLUMN, COPY THE QUESTIONS YOU LISTED IN QUESTION #1. IN THE "WHAT I LEARNED" COLUMN WRITE DOWN THE ANSWERS YOU DISCOVERED AS YOU READ THE ARTICLE.

WHAT I WANTED TO FIND OUT	WHAT I LEARNED
1	
2	
3	

Saying 'No' To Immunization

By Rebecca Leung /CBS/ February 11, 2009

Getting vaccinated against deadly diseases like polio, diphtheria and whooping cough used to be a universal childhood ritual. Every child got the shots, and there were no questions asked.

But now, some parents are asking questions, because they fear that vaccines can cause diseases like autism. And, as more and more of them refuse to immunize their kids, public health officials fear that those old childhood diseases could come back.

And now, one has: Whooping cough. At its peak, a quarter million people (most of them children) got it every year and 9,000 died from it. Then, a vaccine made whooping cough (officially called pertussis) just a vivid name in history books.

But history is starting to repeat itself. Today, there are more cases of whooping cough in this country than at any time in 40 years. **Correspondent Dan Rather** reports.

Most of us have forgotten about the dangers of whooping cough and what it does to a child. That's why Charlotte Arboleda didn't worry much last fall, when her newborn boy, her third child, developed a cough and runny nose.

"It's very serious, very serious," says Arboleda. "I could have lost him at home that night, on the changing table, in front of his brother and sister."

Although Arboleda's older children got all the usual vaccines, 6-week-old Jordy was too young for the whooping cough vaccine. "When his coughing stopped, he stopped breathing. You know, his lips turned a little blue. And he, he lost consciousness for a moment," says Arboleda, who took Jordy to the hospital, where she watched in horror as doctors and nurses struggled for a week to keep Jordy breathing.

Even after he went home, Jordy didn't stop coughing for weeks. But his case isn't unusual. Most people don't know that so far this year, but there have been major whooping cough outbreaks in 18 states. One of those outbreaks happened in Westchester County, a New York City suburb of nearly one million. It caught officials, like health commissioner Dr. Joshua Lipsman, by surprise.

"We normally have only about six cases per year of whooping cough, or pertussis. Since a year ago, we were up to 120 cases. So that's 20 times as many," says Lipsman.

Public health investigators traced the outbreak to a local school, with children, Lipsman said, who were not vaccinated. "But then [the outbreak] spread for a variety of reasons," he adds. "I think that part of our problem has to do with the fact that kids are not getting adequately vaccinated."

A new study shows that's true, and it found something surprising. The study, which was published in July in the medical journal "Pediatrics," found that non-vaccinating parents tend to be married, have college degrees, and higher annual incomes; in other words, people who know about, and have access to, vaccines.

This trend worries Dr. Lipsman. Vaccines are not 100 percent effective, so even people who have been vaccinated are at risk from those who aren't.

"If that takes off and we fall below the minimum percentage of the population that needs to be vaccinated in order

for all of us to have the benefit of vaccines – what we call herd immunity – we'll begin to see outbreaks, much bigger outbreaks of these vaccine-preventable diseases," says Lipsman.

Parents cite several reasons for not vaccinating their children. Many think vaccines aren't necessary any more, because the diseases they prevent are rare in this country. Others believe children should develop "natural immunity" to disease, instead of with vaccines.

But most believe vaccines, or the mercury-based preservative once used in some vaccines, can cause diseases like autism, diabetes and multiple sclerosis -- diseases that have increased in recent years.

Many anti-vaccine parents believe the medical establishment, in collusion with the government and vaccine-makers, is hiding these dangers from the public.

"I don't trust these doctors. I don't trust a lot of the medical field," says Debra Alvo, one of a group of mothers who don't like the idea of vaccinations. Her 2-year-old son has never gotten any shots.

"I don't mind if he gets measles. I don't think it's a killer disease as they're touting it to be. No, I feel like my son Julian has a really strong constitution, and if he got something, you know, I would deal with it then."

During the country's last big measles outbreak, in 1989, 55,000 got the disease and 123 died. That's one out of every 500 cases.

Arlen Boltax is expecting her third child any week now. She fears any vaccines could permanently disable her baby.

"I usually don't say much because it's, you know, they have their perspective and that's the training that they receive from their medical school," says Boltax. "I'm not a scientist. I'm not a doctor. I just feel that I'm doing what's best for my children."

Mary Ellen Donahue has two children. Her youngest was diagnosed with a form of autism after getting vaccinated. "My feeling is that the diagnosis of autistic spectrum disorder is a result of something in the shots," says Donahue. "It could be the mercury, or it could be that it weakened his immune system."

Does she believe that there is a relationship between vaccines and autism – at least in some children? "I definitely believe that there are certain children that are susceptible," says Donahue.

Many parents get their beliefs about vaccines and autism from controversial studies like one conducted by British scientist Andrew Wakefield in 1998.

Wakefield, after studying only 12 children, said the measles vaccine might cause autism, and urged parents not to give their kids the vaccine. That caused a panic in England. Vaccine rates dropped, and measles cases rose.

But last February, the editors of the journal Lancet, which first published Wakefield's study, disavowed it. They learned that Wakefield was paid by lawyers planning to sue vaccine makers while doing the study.

And a study of more than 530,000 Danish children found that those who didn't get the measles vaccine were just as likely to get autism as children who were vaccinated. The study was published in the New England Journal of Medicine in November, 2002. It looked at 537,303 Danish children, and found that "the risk of autism was similar in vaccinated and unvaccinated children."

That, along with other studies, lead most scientists and doctors to say fears about vaccines and autism are not based in fact.

"I'm prepared to say that vaccines don't cause autism," says Dr. Paul Offit, one of the country's leading researchers

into vaccines for children. "When you choose not to get a vaccine, you're not going to lower your risk of autism. All you're going to do is increase your risk of getting a severe and potentially fatal infection."

And he believes that the studies support it.

This debate is all in a day's work for Dr. Lisa Thebner, a pediatrician in a large Manhattan practice. She says many parents ask questions, but "there's a small percentage who, even having those concerns addressed still seem to have a fear of vaccines and want to withhold them."

When parents tell her that they don't want their children vaccinated, what does she say?

"I tell them that it is their responsibility," says Thebner. "If they are thinking about not immunizing their child, that they must do the homework. That there's too much info for them to just base their decision on gestalt, on rumor, on hearsay or on anecdotes."

Thebner shows parents the key scientific studies, which say vaccines are safe, and protect both individuals and society as a whole. But that doesn't convince some parents. "At that point, I say, 'I don't think that we're philosophically then in alignment in terms of how we would perceive the care of our children,'" says Thebner. "I would encourage them to choose another pediatrician."

The most prominent organization claiming vaccines are unsafe is the National Vaccine Information Center, or the NVIC. Barbara Loe Fisher, who referred ***60 Minutes*** to the parents mentioned in this story, heads the group.

"The mass use of multiple vaccines in early childhood to prevent all infections is the biggest medical experiment that has ever been conducted on the human race. And I think the jury is still out as to whether or not it will be medical science's greatest achievement, or its most tragic failure," says Fisher.

But hasn't wiping out the killers of children with smallpox and polio been a great benefit to our society – and the world? "Whether or not, because we have done that and saved the world from those two diseases, it is biologically wise to prevent all infection in childhood, is an outstanding scientific question that has yet to be answered," says Fisher.

Her group operates out of modest offices in a strip mall in Vienna, Va., near Washington. But the NVIC's reach is global. Its widely read Web site questions the safety of virtually every vaccine commonly given to children.

"When I talk to doctors and research scientists, they say there is no scientific evidence to support that there's a cause-and-effect between the vaccines and the rising numbers of these other problems," says Rather.

"That science has not been done, because those who hold the money in this country for research, government and the pharmaceutical industry, are not allowing those studies to be conducted," says Fisher.

But ***60 Minutes*** found nearly 900 studies, and more than 4,000 articles on vaccine safety in medical and scientific journals just since 1990.

"If they were willing to look at all the studies that were done with vaccines, they would find that they are, I think without question, the safest, best-tested thing we put into our bodies," says Offit. "I think they have a better safety record than vitamins, a better safety record that, than cough-and-cold preparations, a better safety record than antibiotics."

Offit immunizes his own children and he says he's dismayed by the growing number of parents who won't.

"When I see children come in with serious and occasionally fatal illness that is preventable, it just, it really breaks my heart. And I don't know any other lesser way to say it, other than to say that if more people choose not to get a vax, then what will happen is these diseases will come back," says Offit. "And it's just a very high price to pay for

a knowledge that we should already have in hand."

"Health is not just the absence of infectious disease. Health is also the absence of chronic disease," says Fisher. "And the argument is, could mass-vaccinations be a co-factor in the rise of chronic disease and disability?"

"I think questioning vaccines is perfectly reasonable. But I think that when one looks at the data, and sees that vax are safe and effective and...still...says, 'Well, I think there's a conspiracy to sell vaccines' or 'I think my doctor's lying to me,' I think that's when you cross some sort of critical line," says Offit. "What I'm asking is that people trust their experts. And that's sort of a hard thing to politically accept."

This is more than an academic debate to mothers like Charlotte Arboleda. When asked what she would tell parents who believe vaccines against childhood diseases are no longer necessary, she said: "If the could have seen my baby in the hospital at six weeks old, I would tell them 'you need to know how that feels. You know, this is preventable. There's no reason for him to have gotten that sick.' They should feel that, and then decide."

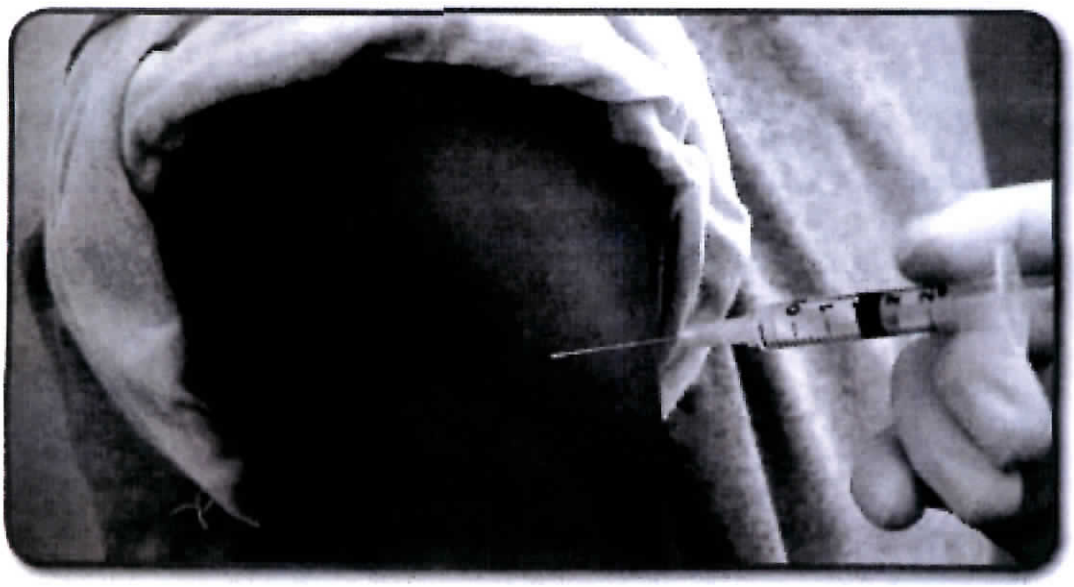
While all states still require some vaccinations for school-age children, many now give exemptions to parents who don't want their children immunized.

The pertussis, or whooping cough, vaccine, in conjunction with diphtheria and tetanus vaccines, is given in a series of four shots to infants between the ages of 2 months and 18 months. But the pertussis vaccine tends to lose effectiveness after about 10 years. This means children vaccinated as infants are vulnerable to whooping cough when they reach adolescence. They may retain some residual immunity, and they're much stronger than infants, so cases in teenagers are likely to be much less serious.

The FDA is considering licensing a whooping cough "booster" vaccine for teenagers that would protect them for many years. Pediatricians will have the latest information on this vaccination.

Immunization: Helping Out the Immune System

Long ago, some illnesses and diseases outwitted people's immune systems. Epidemics of the flu, measles, smallpox, and other diseases struck communities, killing hundreds or thousands of people. Then in the 18th century, the discovery of **immunization** provided humans with a way to help their immune systems protect them.



Tracing the Path of Science

In 1718, in the city of Constantinople (now part of Turkey), Lady Mary Wortley Montague witnessed doctors giving patients a mild case of smallpox by rubbing liquid from smallpox blisters into cuts on the patients' hands. The patients developed a mild case of smallpox, recovered, and never had smallpox again. Europeans called the procedure *variolation*.

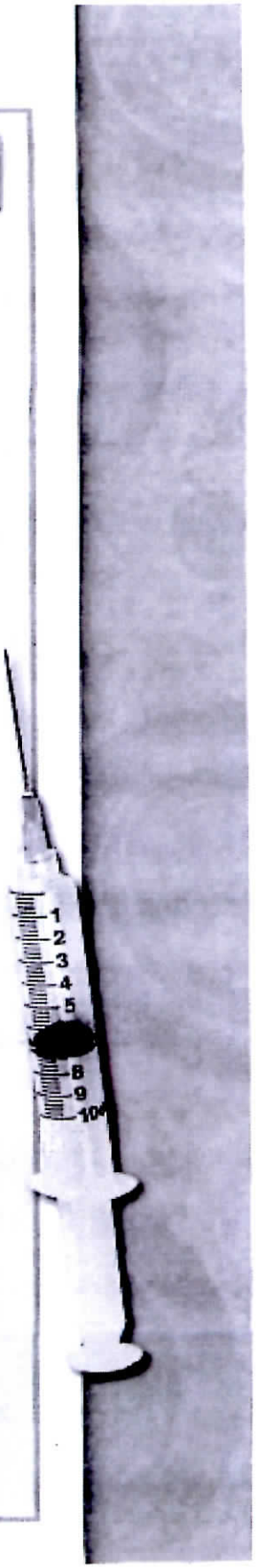
Lady Montague knew how deadly smallpox could be and recognized the importance of finding a cure. So she decided to test the variolation procedure on her own son. A surgeon named Charles Maitland made a small cut on the child's hand and rubbed in liquid from smallpox blisters. The boy developed a light case of smallpox but quickly recovered. When Lady Montague returned to England, she had her daughter treated too. Maitland also returned to England and tested variolation on six convicted prisoners. All of the treatments were successful.

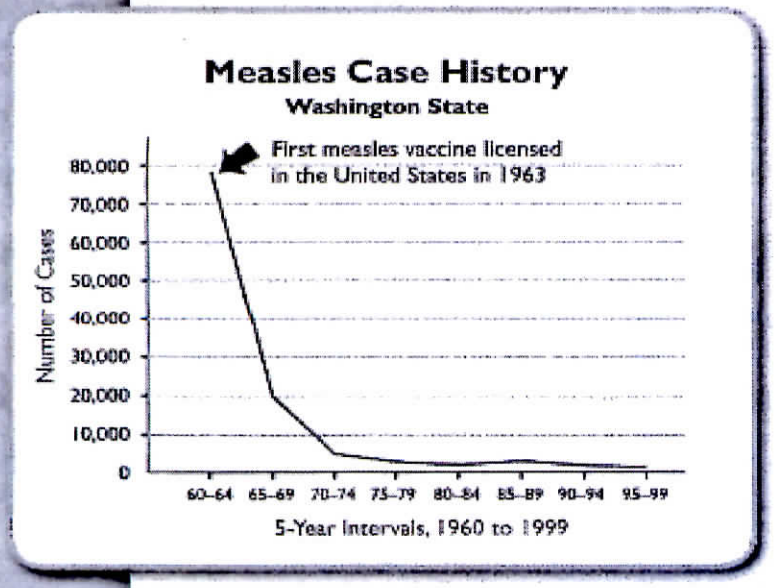
But variolation was not a perfect procedure. Unhealthy people died when treated with variolation-induced smallpox. And even healthy people sometimes came down with severe cases.

In 1796, Edward Jenner, a country doctor in England, tried a different procedure. Jenner was familiar with country folklore that said that milkmaids who had cowpox never came down with smallpox. Cowpox was a less serious disease similar to smallpox that could be gotten by milking cows. Jenner reasoned that giving a person cowpox using a procedure similar to variolation would protect the person against smallpox.

Jenner tested his hypothesis in May of 1796. Sarah Nelmes, a milkmaid with cowpox, and a boy named James Phipps took part in the experiment. Jenner took some liquid from a blister on Nelmes' hand and rubbed it into scratches on Phipps's arms. The boy developed a fever but soon recovered. Jenner then injected Phipps with smallpox. The boy didn't develop smallpox, seemingly proving that he was now immune to the disease.

Jenner continued his testing for years, calling his procedure *vaccination*, from the Latin word *vacca*, which means "cow." Later this term was used to refer to vaccination against any disease.





The experiments with variolation and vaccination were the first documented scientific studies on immunization. Immunization is the process of producing immunity through the use of human-made medicines. Today, most children in developed nations are routinely vaccinated against a variety of diseases that once killed many people.

Like variolation, modern vaccinations work by introducing disease-causing pathogens into the human body. Unlike variolation, however, today's vaccinations use weakened or killed bacteria or viruses. When a **vaccine** is injected into the body, the immune system recognizes the pathogen and fights it off. The immune system also remembers the pathogen in the vaccine, so if a person is exposed to the live form again, the immune system responds quickly, conquering it before it can produce any symptoms.

Vaccines are available for measles, rubella, mumps, tetanus, and many other diseases. However, some diseases still elude modern science. There is no vaccine for the common cold, for example, because the illness is caused by many different viruses that mutate, or change, quickly.

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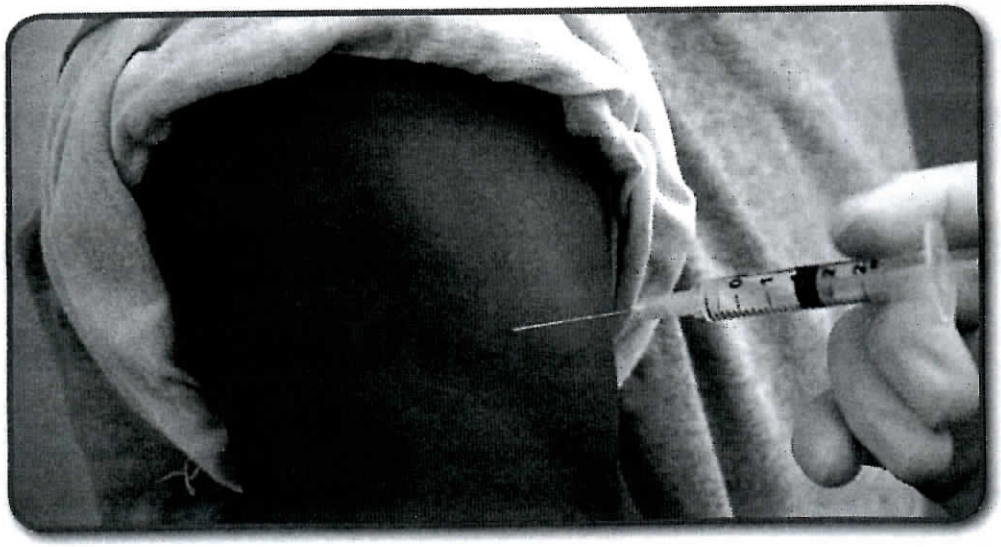

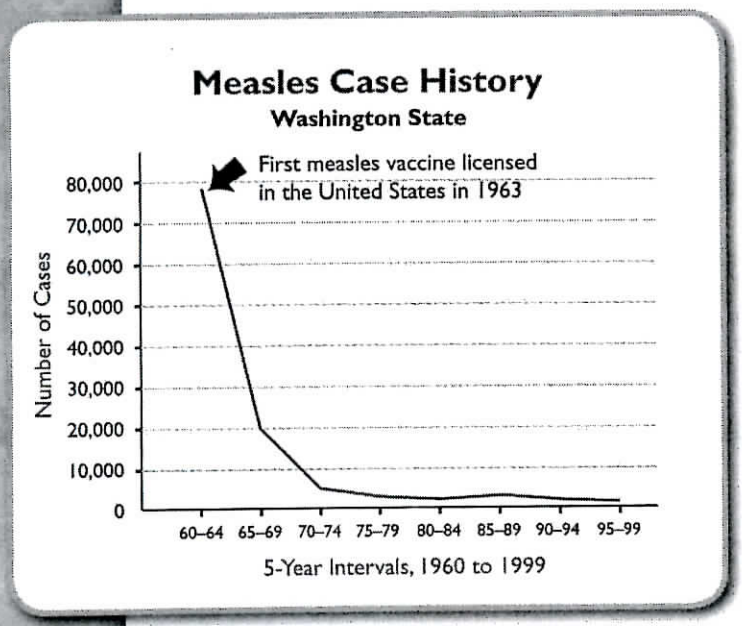

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