



OVERVIEW

BIG IDEA

Vaccinations have reduced millions of preventable illnesses in our world.

OBJECTIVE

5.7: Evaluate the potential consequences of the anti-vaccination movement.

AGENDA

1. Vaccination Influences
2. Vaccination Exemptions
3. Vaccination Concepts
4. The Anti-Vaccine Controversy
5. Journey of Your Child's Vaccine
6. Educate the Masses!

HOMEWORK

Find an adult who is willing to be interviewed about their understanding and attitudes toward vaccines. Record their responses.

LESSON 5.7

Vaccinations

SUMMARY:

Students will engage in an exploration of vaccinations as a major preventative public health intervention. Students will brainstorm the various influences on whether people vaccinate and discuss the laws for exemptions for children. They will learn how vaccinations are developed and accepted for widespread use. Teaming up, students will devise a health education campaign on the Internet to provide accurate, evidence-based information about vaccines.

STANDARDS:

NHES 5.12.3: Justify when individual or collaborative decision making is appropriate.



Vaccination

Obj. 5.7: Evaluate the potential consequences of the anti-vaccination movement.



Vaccination Influences

1. Have you received a flu shot lately? Why did you or did you not get it?
2. What factors influence people to get the flu shot?
3. Did you receive routine vaccinations as a child?
4. What factors influence parents to get their children vaccinated?



Vaccination Exemptions

In the U.S., all but two states allow parents to opt out of their children's otherwise-mandatory vaccinations for religious reasons. The number of religious exemptions rose greatly in the late 1990s and early 2000s; for example, in Massachusetts, the rate of those seeking exemptions rose from 0.24% in 1996 to 0.60% in 2006. Some parents are falsely claiming religious beliefs in order to get exemptions (LeBlanc) The American Medical Association opposes such exemptions, on the grounds that they endanger health not only for the unvaccinated individual but also for neighbors and the community at large (AMA).

Sources: Wikipedia "Vaccination & Religion"; LeBlanc S (2007-10-17 "Parents use religion to avoid vaccines." *USA Today*. AP; American Medical Association (2009). "Health and Ethics Policies of the AMA House of Delegates" (PDF). pp.460-461

1. What factors might influence parents to seek an exemption for vaccinating their children?
2. Do you think states should have policies allowing exemptions? Why or why not?

DO NOW: While this lesson presents information from the dominant view in the scientific community, from sources CDC and AMA, that vaccines are important and the anti-vaccination movement can negatively impact public health, the lesson also provides an opportunity for students to form their own views and respects all evidence-based ways of thinking. Reinforce this point with students at the beginning of the lesson.

DISCUSS: For more recent newsworthy information on this topic, read the Huffington Post article, "Rules Make Vaccine Exemptions for Kids Harder to Get," by Rachael Rettner (http://www.huffingtonpost.com/2014/02/11/vaccine-exemptions-kids-rules-bills-n_4769609.html)



Vaccination Concepts:

Vocabulary:

Vaccine: a product that produces immunity from a disease and can be administered through needle injections, by mouth, or by aerosol.

Vaccination: the injection of a killed or weakened organism that produces immunity in the body against that organism.

Immunization: the process by which a person or animal becomes protected from a disease. Vaccines cause immunization, and there are also some diseases that cause immunization after an individual recovers from the disease.

Vaccine Basics:

Vaccines are Safe: Learn more about the benefits and risks of immunization including how vaccines are monitored for safety, answers to common questions, what is in vaccines, and who should be vaccinated.

Vaccines are Effective: Vaccines help prevent many serious diseases. Learn more about how vaccines work and the extensive testing process they undergo to ensure they are effective and safe

Vaccines work with your immune system to prevent disease: Thanks to vaccines, many diseases have been nearly eliminated. Read this section to learn more vaccines and your immune system.

Vaccines protect individuals and the community: Vaccines save lives by preventing outbreaks of disease and protecting those who cannot be vaccinated. Read this section to learn about the community benefits of vaccines.

Source: <http://www.vaccines.gov/basics/>

Common Misconceptions:

1. Diseases had already begun to disappear before vaccines were introduced, because of better hygiene and sanitation.
2. The majority of people who get a disease have been vaccinated.
3. There are "hot lots" of vaccine that have been associated with more adverse events and deaths than others.
4. Vaccines cause many harmful side effects, illnesses, and even death.
5. Vaccine-preventable diseases have been virtually eliminated from the United States.
6. Giving a child multiple vaccinations for different diseases at the same time increases the risk of harmful side effects and can overload the immune system.

For evidence and information on why these are misconceptions, visit:

<http://www.cdc.gov/vaccines/vac-gen/6mishome.htm#Vaccinescause>

DISCUSS

The Autism-Vaccine Controversy

Have you heard or read anything about autism being linked to vaccinations? Around 2007, some celebrities touted their anti-vaccination views and a rise in parents who do not want to vaccinate children began to occur. Most scientists do not believe there is a linkage between autism and vaccinations, yet there are a small handful who are actively pursuing this research.

What do you think? Do you have enough evidence to truly make an informed decision? Where might you seek out the accurate information?

NEW INFO: In common conversation, the terms vaccination and immunization are often used interchangeably.

NEW INFO: For a biology background lesson, show the MIT video, "How a Vaccine Works" found at: <http://video.mit.edu/watch/how-a-vaccine-works-10952/>

NEW INFO: Consider splitting students into six groups and assigning each group the task of focusing on one misconception. They can use the CDC website provided to read the background on that misconception and then each group can provide a more detailed explanation, citing appropriate evidence, to the class.

DISCUSS: For an excellent summary of information along with links to additional resources, see the CDC website, "Vaccine Safety – Concerns about Autism" at: <http://www.cdc.gov/vaccinesafety/concerns/autism/>



Journey of Your Child's Vaccine

Read the "Journey of Your Child's Vaccine" handout & answer the questions below.

Source: CDC, <http://www.cdc.gov/vaccines/parents/infographics/journey-of-child-vaccine.html>

1. What criteria does a vaccine have to meet to be licensed by the FDA?
2. How is a vaccine added to the U.S. recommended immunization schedule?
3. Who has the final approval power for new recommended immunizations?
4. How is information on side effects and problems with vaccines collected and analyzed?
5. Under what circumstances might vaccination recommendations change?



Educate the Masses!

Challenge: Many people do not understand accurate information regarding vaccinations. While print and media (television, radio, etc.) sources feed us some of our information, computers, tablets, and smartphones are increasingly our main source of info. The Internet is a double-edged sword; while it offers a wealth of information (much of it very useful and accurate), it also is riddled with websites that have completely unfounded, inaccurate, and problematic information. How can we help promote accurate information about vaccinations?

Directions: In a team, work together to create an campaign to inform the public about vaccinations. Your campaign must somehow involve a website or social media platform as its primary mechanism for conveying information, but you may also use other forms of communication as well. Use the questions below to guide you, use credible sites on the Internet to research, and get ready to present your idea for a campaign to the class.

Consider:

- What information do you want to convey to the public? (Be specific!)
- How will you communicate this information?
- What will attract, engage your audience?
- How will the information be compelling or memorable?
- What will make your information credible? What evidence will you cite?

READ:

Distribute copies of the handout "CDC - Journey of Your Child's Vaccine" PDF from resource files OR (if technology permits) direct students to: <http://www.cdc.gov/vaccines/parents/infographics/journey-of-child-vaccine.html>

THINK: Suggested timeframe: 20 minutes to plan and prepare in class, additional work done at home or in an extra class, if time permits. Brief presentations (2-3 minutes per group) in following lesson



Consequences

Imagine the anti-vaccination movement continues to grow. What are some potential consequences of the increased numbers of unvaccinated children? How will public health be affected?



Vaccination Interview

Interview an adult (ideally, a parent) about their beliefs and understandings regarding vaccines. Use the following questions as your guide.

1. How much time have you spend learning about vaccinations (if at all)?
2. What are your main sources of information regarding vaccinations?
3. What is the purpose of vaccinations?
4. Did you (or would you) get your children vaccinated? Why or why not?
5. Why does the CDC recommend a yearly flu shot for most people?
6. Do you and members of your family regularly receive the flu shot? Why or why not?
7. Are there risks involved in vaccinations? If so, what are they?

HOMEWORK: The purpose of this homework assignment is to get students engaged in conversation about this issue, so that their learning can be connected to an authentic context of the decision-making that adults need to do, especially when they become parents. Engaging in this conversation will help students reinforce their understanding.