

3. Divide the class into eight groups. Ask one group at a time which disease they would like to investigate. Assign the following group roles and explain their responsibilities:
 - The leader will keep the small group working on the task.
 - The recorder will write the small group's ideas.
 - The reporter will share the small group's work with the class.
 - The reader will look up additional information in the reference books to share with the small group.
4. State:

Today you will work in small groups to find out about these diseases. You will fill out a Student Worksheet about the disease you have selected using information you get from a filmstrip, some pamphlets, and reference books.
5. Give each student a copy of the Student Worksheet, Preventing Diseases with Immunizations. Read over the worksheet together. Clarify any questions they may have.

Activity 2: 13 minutes

Explore information on communicable diseases and vaccinations.

Teacher's Note: You have two options for conducting this activity. If the filmstrip and cassette *Immunizations: A Shot in Time* is available, conduct Option 1. If it is not available, conduct Option 2.

Option 1

1. Introduce the filmstrip:

Before we start looking up information, let's watch a filmstrip about vaccinations. Some of the groups will hear something about their diseases, but others will not.

2. Show the filmstrip *Immunizations: A Shot in Time*.
3. Discuss the filmstrip by asking these questions:

What are antibodies? [They are proteins developed in the blood to guard against a specific disease. Antibodies guard against a second attack.]

What is immunization? [It is an injection that prevents communicable diseases by causing the body to make antibodies. It is also called vaccination.]

By what age should people have the majority of their immunizations? [They should have them by the time they enter school.]

Why is it important for all children to have immunizations? [They help to prevent the spread of communicable diseases.]

Option 2

1. Write the words “antibodies,” “immunization,” and “vaccination” on the board.
2. Ask the students to help you define each word. Use the following questions:

What are antibodies? [They are proteins developed in the blood to guard against a specific disease. Antibodies guard against a second attack.]

What is immunization? [It is an injection that prevents communicable diseases by causing the body to make antibodies.]

What is a vaccination? [It is giving a medicine, called a vaccine, that will cause the body to make antibodies. It is used as another word for “immunization.”]

3. Discuss the importance of immunizations using the following questions:

By what age should people have the majority of their immunizations? [They should have them by the time they enter school.]

Why is it important for all children to have immunizations? [They help to prevent the spread of communicable diseases.]

Activity 3: 15 minutes

Investigate preventable diseases in order to understand the importance of being immunized.

1. Distribute each pamphlet to the group that has the disease it describes. Allow the groups enough time to complete their worksheets by gleaning information from the pamphlets, reference books, and/or looking up information in the library.

Teacher’s Note: Be prepared to assist each group with some of the vocabulary in the pamphlets. It will be helpful to read the pamphlets ahead of time to introduce any terms the students may not know.

If you choose to have the students use library reference materials, you may want to take two days to complete this activity.

2. Ask each group’s reporter to take one minute to describe to the rest of the class what the group learned about their assigned disease.

Closure: 1 minute

- Summarize by asking:

Which diseases are preventable by immunizations? [Polio, Diphtheria, Tetanus, Pertussis, Measles, Mumps, Rubella, Haemophilus Influenzae]

In order to prevent these diseases, getting immunized is important.

- State:

Our next health lesson will explore more ways to prevent the spread of communicable disease.

Integration Ideas

History

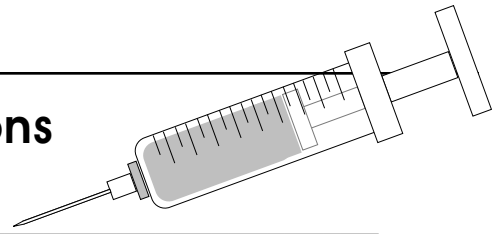
- Study the biographies of leaders in the development of vaccines: Jonas Salk, Louis Pasteur, Albert Sabin, etc.

Language Arts

- Read the story of Louis Pasteur in *The Value of Believing in Yourself: The Story of Louis Pasteur*, by Spencer Johnson, M.D.
- Read chapter 3 of the book, *Focus on Medicines*, by Susan DeStefano, to the class. It describes various kinds of medicine, including vaccines.

Name _____

Preventing Diseases With Immunizations



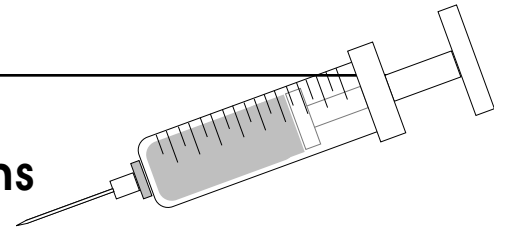
1. Name of disease: _____

2. Who gets it?

3. Signs and symptoms:

4. Complications:

5. Vaccination (who? when?):

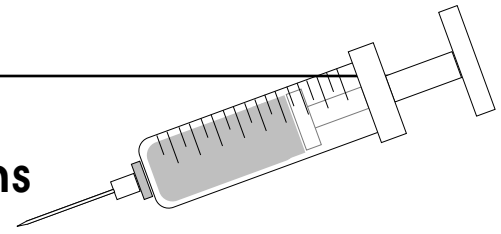


Preventing Diseases With Immunizations

1. Name of disease: *Diphtheria* _____
2. Who gets it? *usually children under age 15, but older people get it, too* _____
3. Signs and symptoms: *severe swelling and infection in the throat and mouth; a membrane forms over the throat and tonsils; may cut off air supply* _____
4. Complications: *may cause choking and suffocation; may cause death; may suffer damage to the heart, kidneys, and nerves* _____
5. Vaccination (who? when?): *two, four, and six months of age; boosters at fifteen months and age 4 or 5; boosters each ten years for life* _____

1. Name of disease: *Pertussis (Whooping Cough)* _____
2. Who gets it? *usually infants and young children* _____
3. Signs and symptoms: *The first symptoms are like common cold: runny nose, sneezing, watery eyes, cough (especially at night), and fever. Then, the cough becomes violent, mucous blocks airway, makes whooping noise, and struggles to breathe.* _____
4. Complications: *pneumonia; death; collapsed lung; lung damage; asthma; brain damage; hernia; dehydration; starvation; hemorrhages, etc.* _____
5. Vaccination (who? when?): *two, four, and six months of age; boosters at fifteen months and age 4 or 5* _____

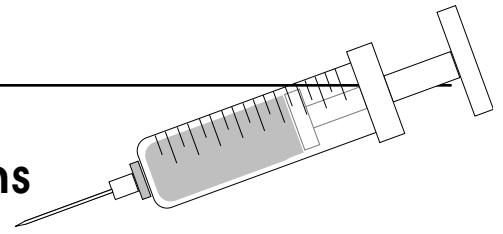
Name _____



Preventing Diseases With Immunizations

1. Name of disease: *Tetanus*
2. Who gets it? *anyone, but usually the very old or very young*
3. Signs and symptoms: *headache; sore or stiff muscles; awkward walk; insomnia; stiff aching muscles of the jaw, face, and neck; difficulty swallowing and opening the mouth; muscle spasms of the jaw*
4. Complications: *death in four out of ten cases*
5. Vaccination (who? when?): *two, four, and six months of age; boosters at fifteen months and age 4 or 5; boosters each ten years for life*

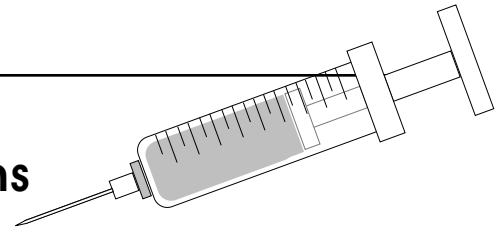
1. Name of disease: *Measles (Rubeola, Hard Measles or Red Measles)*
2. Who gets it? *Usually children, but older people get it, too*
3. Signs and symptoms: *Before the spots appear, the person may have a headache, malaise, fever, inflammation of the eyes, eye sensitivity to light, cough, spots on the inside of the mouth. Then, a rash on the skin appears (often starting on the face), fever, and eye sensitivity to light.*
4. Complications: *high fever; convulsions; encephalitis (brain inflammation); brain damage; ear infections; death*
5. Vaccination (who? when?): *fifteen months of age; booster at age 4 or older*



Preventing Diseases With Immunizations

1. Name of disease: *Mumps*
2. Who gets it? *usually children between ages five and ten, but older people get it, too*
3. Signs and symptoms: *painful, swollen glands in the face and neck; fever; headache; earache*
4. Complications: *inflammation of the brain; deafness; painful swelling of the testicles and sterility in males; inflammation of the ovaries and breasts in females*
5. Vaccination (who? when?): *fifteen months of age*

1. Name of disease: *Rubella (German Measles, 3-Day Measles)*
2. Who gets it? *usually children, but older people get it, too*
3. Signs and symptoms: *low fever; rash starting on the face and moving down the body; swollen lymph glands in the neck; lasts one to three days*
4. Complications: *If a pregnant woman gets rubella, her baby may be born with birth defects, such as loss of hearing, impaired vision, heart damage, mental retardation, death.*
5. Vaccination (who? when?): *fifteen months of age and booster at 4 years of age or older*



Preventing Diseases With Immunizations

1. Name of disease: *Polio (poliomyelitis or infantile paralysis)*
 2. Who gets it? *usually children between ages one and sixteen, but older people get it, too*
 3. Signs and symptoms: *fever; sore throat; nausea; headache; stomach ache; pain and stiffness in the neck, back, and legs; muscle pain; paralysis*
 4. Complications: *permanent paralysis; death*
 5. Vaccination (who? when?): *two, four, and fifteen months of age and a booster at 4 or 5 years of age*
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1. Name of disease: *HIB (Haemophilus influenzae type b) is a bacteria, rather than a disease*
 2. Who gets it? *usually children under age five and ten*
 3. Signs and symptoms: *infections of the brain, trachea, heart, joints, ears, and lungs*
 4. Complications: *inflammation of the brain; hearing loss; mental retardation; blindness; paralysis; seizures; death; blockage of the airway and suffocation; arthritis; pneumonia, etc.*
 5. Vaccination (who?, when?): *Infants need vaccine at 2, 4, 6, and 15 months of age or 2, 4, and 12 months (depends on type of vaccine). Children aged 15-59 months need single dose. Children over five years and adults do not need it.*

Recommended Childhood Immunization Schedule United States, January - December 2000

Vaccines¹ are listed under the routinely recommended ages. **[Bars]** indicate range of recommended ages for immunization. Any dose not given at the recommended age should be given as a "catch-up" immunization at any subsequent visit when indicated and feasible. **(Ovals)** indicate vaccines to be given if previously recommended doses were missed or given earlier than the recommended minimum age.

Age Vaccine	1 mo	2 mos	4 mos	6 mos	12 mos	15 mos	18 mos	24 mos	4-6 yrs	11-12 yrs	14-16 yrs
Hepatitis B ²	Hep B	Hep B	Hep B	Hep B	Hep B	Hep B				Hep B	
Diphtheria, Tetanus, Pertussis ³	DTaP	DTaP	DTaP	DTaP	DTaP	DTaP	DTaP ³		DTaP	Td	
H. influenzae type b ⁴	Hib	Hib	Hib	Hib	Hib						
Polio ⁵	IPV	IPV	IPV		IPV ⁵				IPV ⁵		
Measles, Mumps, Rubella ⁶					MMR				MMR ⁶	MMR ⁶	
Varicella ⁷					Var					Var ⁷	
Hepatitis A ⁸											Hep A ⁸ -in selected areas

Approved by the Advisory Committee on Immunization Practices (ACIP), the American Academy of Pediatrics (AAP), and the American Academy of Family Physicians (AAFP).

Adapted from MDCH: IP-110 AUTH: PHS, Act 42, Sect. 2126 Based on CDC Publication

On October 22, 1999, the Advisory Committee on Immunization Practices (ACIP) recommended that Rotashield® (RRV-TV), the only U.S.-licensed rotavirus vaccine, no longer be used in the United States (MMWR, Volume 48, Number 43, Nov. 5, 1999). Parents should be reassured that their children who received rotavirus vaccine before July are not at increased risk for intussusception now.

- 1 This schedule indicates the recommended ages for routine administration of currently licensed childhood vaccines as of 11/1/99. Additional vaccines may be licensed and recommended during the year. Licensed combination vaccines may be used whenever any components of the combination are indicated and its other components are not contraindicated. Providers should consult the manufacturers' package inserts for detailed recommendations.
- 2 **Infants born to HBsAg-negative mothers** should receive the 1st dose of hepatitis B (Hep B) vaccine by age 2 months. The 2nd dose should be at least one month after the 1st dose. The 3rd dose should be administered at least 4 months after the 1st dose and at least 2 months after the 2nd dose, but not before 6 months of age for infants.
Infants born to HBsAg-positive mothers should receive hepatitis B vaccine and 0.5 mL hepatitis B immune globulin (HBIG) within 12 hours of birth at separate sites. The 2nd dose is recommended at 1-2 months of age and the 3rd dose at 6 months of age.
Infants born to mothers whose HBsAg status is unknown should receive hepatitis B vaccine within 12 hours of birth. Maternal blood should be drawn at the time of delivery to determine the mother's HBsAg status; if the HBsAg test is positive, the infant should receive HBIG as soon as possible (no later than 1 week of age).
All children and adolescents (through 18 years of age) who have not been immunized against hepatitis B may begin the series during any visit. Special efforts should be made to immunize children who were born in or whose parents were born in areas of the world with moderate or high endemicity of hepatitis B virus infection.
- 3 The 4th dose of DTaP (diphtheria and tetanus toxoids and acellular pertussis vaccine) may be administered as early as 12 months of age, provided 6 months have elapsed since the 3rd dose and the child is unlikely to return at age 15-18 months. Td (tetanus and diphtheria toxoids) is recommended at 11-12 years of age if at least 5 years have elapsed since the last dose of DTP, DTaP or DT. Subsequent routine Td boosters are recommended every 10 years.
- 4 Three *Haemophilus influenzae* type b (Hib) conjugate vaccines are licensed for infant use. If PRP-OMP (PedvaxHIB® or ComVax® [Merck]) is administered at 2 and 4 months of age, a dose at 6 months is not required. Because clinical studies in infants have demonstrated that using some combination products may induce a lower immune response to the Hib vaccine component, DTaP/Hib combination products should not be used for primary immunization in infants at 2, 4 or 6 months of age, unless FDA-approved for these ages.
- 5 To eliminate the risk of vaccine-associated paralytic polio (VAPP), an all-IPV schedule is now recommended for routine childhood polio vaccination in the United States. All children should receive four doses of IPV at 2 months, 4 months, 6-18 months, and 4-6 years. OPV (if available) may be used only for the following special circumstances:
 1. Mass vaccination campaigns to control outbreaks of paralytic polio.
 2. Unvaccinated children who will be traveling in <4 weeks to areas where polio is endemic or epidemic.
 3. Children of parents who do not accept the recommended number of vaccine injections. These children may receive OPV only for the third or fourth dose or both; in this situation, health-care providers should administer OPV only after discussing the risk for VAPP with parents or caregivers.
 4. During the transition to an all-IPV schedule, recommendations for the use of remaining OPV supplies in physicians' offices and clinics have been issued by the American Academy of Pediatrics (see *Pediatrics*, December 1999).
- 6 The 2nd dose of measles, mumps, and rubella (MMR) vaccine is recommended routinely at 4-6 years of age but may be administered during any visit, provided at least 4 weeks have elapsed since receipt of the 1st dose and that both doses are administered beginning at or after 12 months of age. Those who have not previously received the second dose should complete the schedule by the 11-12 year old visit.
- 7 Varicella (Var) vaccine is recommended at any visit on or after the first birthday for susceptible children, i.e. those who lack a reliable history of chickenpox (as judged by a health care provider) and who have not been immunized. Susceptible persons 13 years of age or older should receive 2 doses, given at least 4 weeks apart.
- 8 Hepatitis A (Hep A) is shaded to indicate its recommended use in selected states and/or regions; consult your local public health authority. (Also see MMWR Oct. 01, 1999/48(RR12); 1-37).