

Teacher's Guide for COBBLESTONE

September 2010: Deadly Diseases

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Goal: to gain knowledge of the history of diseases, their causes, successful and unsuccessful treatments and cures, and preventative measures to keep us healthy.

*Always have a parent or adult you trust help you research websites.

"Disease Lowdown" by Nick King (Pages 2-3)

Pre-reading:

Look at the pictures and the title. What does it mean to have the lowdown on something? What do you think the lowdown is concerning disease?

Vocabulary: access, technologies, necessities, curable, bay, refugee, displaced, disasters, breeding, transmitted, droplets, mucus, transferred, infectious, threatened, humanity, destruction, constant companion, epidemics, exported, punishment, adjusting, explanations, advancements, dramatic, infectious, declined, managed, nutrition, resist, sanitation, hamper, availability, disadvantaged, and fortunate.

Comprehension Check:

1. Discuss the contrast of health conditions among citizens of the world.
2. "Prior to the 20th century, disease was a constant companion for people the world over." Explain this statement. What does the author mean by "constant companion?" (2nd paragraph on page 3)
3. The 2nd paragraph on page 3 says, "Europeans exported many of the diseases when they journeyed to the Americas between the 16th and 19th centuries." Explain this statement.
4. Explain what is meant by "adjusting the way people thought about illness and medicine..." (3rd paragraph on page 3)
5. Tell about "long-held beliefs about bathing and fresh air." (3rd paragraph on page 3)
6. Have you ever heard anyone say that someone's sickness, tragedy, or death was a punishment from God? Do you agree or disagree with that statement? Why?
7. Name two or more reasons for the decline in epidemic diseases in richer countries.
8. The author describes Americans as "fortunate" in the last paragraph of this article. What does he mean?

Art:

- The 2nd paragraph on page 3 describes infectious diseases as having "left a path of destruction throughout history." Illustrate your interpretation of that statement.
- Create a Thank You card for your doctor or favorite nurse. Thank them for treating you and helping you stay healthy.

Writing Activity:

1. Make a list of health reasons that tell why you are fortunate to live in America.
2. Contact a missionary in another country and ask about health conditions there. Local churches should be able to provide a name and address.

Research:

- What organizations provide health care for people suffering in poor countries?

- What support do religious groups offer? Name some organizations that help.

"A Destructive Path" by Nancy Day (Pages 4-6)

Pre-reading:

Look at the pictures, captions, and the title of the article. Who brought a destructive path that caused destruction?

Vocabulary: alien, unwittingly, resistance, defenseless, potential, laborers, imposing, terrifying, immunity, contracting, geographically, isolated, exposed, protection, avoid, fatal, devastation, various, invisible, treading, conquest, survival, starvation, catastrophic, exploration, settlements, immigrants, estimate, epidemics, infected survivors, calculate, dramatically, indigenous populations, relatively, continents, and altered.

Comprehension Check:

1. Read the quote by a German missionary. What does it mean "to give up the ghost?"
2. Why do you think the reported Native American death count varied so much?
3. What do you think the author meant when he said, "Columbus looked upon the natives as potential Christians and laborers?"
4. Imagine being a Native American and seeing family and friends die from smallpox brought by explorers. How would you feel about these people moving to your homeland?
5. What did the Spaniards do when large numbers of Native Americans died?
6. What other problems did the natives face if they survived the diseases that were present?
7. What was the group of diseases called that the Europeans brought? (last paragraph on page 6)

Art:

- Read paragraph one on page 4. Illustrate this imaginary invasion.
- Read paragraph three on page 4. Imagine the natives' reaction to what the explorers brought. Illustrate it.

Writing Activity:

1. Imagine that you are a Native American and many in your village have died from diseases brought by European settlers. You discover another ship of Europeans has just landed near your village. Go back and call a meeting of the tribal elders. Write out a step-by-step plan for how to handle this.
2. What do you think would have happened if the Europeans had not been carrying diseases that made the Native Americans sick? How might history be different? Write your ideas.

"Bugs That Really Bug Us" by Vijaya Khisty Bodach (page 6)

Pre-reading: Look at the pictures, captions, and the title of the article. What two "bugs" is the article about?

Vocabulary: microbes, organisms, pathogens, genetic, compartment, selective, nucleus, transform, unfavorable, fortunately, vanquished, antibiotics, genetic, hijack, parasites, infections, vaccination, prevention, and host.

Comprehension Check:

1. What are microbes called that cause disease?
2. What do bacteria cells lack?
3. How is disease-causing bacteria destroyed?
4. How are viruses different from bacteria?
5. Explain how viruses are a type of parasite?

6. Why are viruses hard to treat?
7. What is the best way to prevent viral infections?

Graph/Chart:

- Create a tree map. Begin at the top with pathogens. Branch off for the two most important groups. Use this chart to explain microbes that cause disease.

Art:

- Create a poster encouraging people to get vaccinations.

Writing Activity:

1. Pretend to be a virus or bacteria. Tell why you chose the pathogen that you did. Tell about a day in your life.
2. Pretend to be a scientist working to cure pathogens that make humans sick. Would you rather work with virus or bacteria studies? Why?

“Turning the Tables” by Elizabeth Mackintosh Tenney (Pages 7-9)

Pre-reading: Look at the pictures, captions, and title of the article. What do you think is the meaning of the title? What clues helped you to know?

Vocabulary: uncomfortable, aches, infected, pustules, blisters, palms, offensive, pockmarks, officially, declared, dreaded, epidemics, operation, occasionally, virtual standstill, convinced, microorganisms, interfere, outraged, ignored, public opinion, observant, consulted, mass public inoculation, recovered, accepted, exposed, immunity, antibodies, vaccination, microscopic, foundation, theory, artificially, generated, anthrax, terrorist, intentionally, option, epidemics, and stockpiled.

Comprehension Check:

1. How do people commonly describe an “offensive odor?”
2. What are pockmarks?
3. Have you ever had a blister that popped? How is this similar to smallpox? How is it different?
4. Tell how Cotton Mather learned of inoculation.
5. How did Cotton Mather help Boston during an outbreak of smallpox?
6. What benefit did inoculation have?
7. What did people think caused diseases before they knew of microorganisms?
8. What other prevention was found for smallpox?
9. What type of vaccine was Louis Pasteur known for?
10. What does it mean to stockpile vaccine?
11. What is a mass public inoculation?
12. Why is it surprising that Boston minister Cotton Mather shared his information about a possible cure for smallpox? What did most “religious people” believe?
13. Why was Dr. Boylston willing to inoculate his six-year-old son?

Research:

- Cotton Mather
- Dr. Zabdiel Boylston
- Dr. Edward Jenner
- Louis Pasteur

Writing Activity:

1. Make a list of three comments you could say to comfort or encourage the patient shown on page 7.

2. Make a list of three comments you could say to comfort or encourage the woman whose skin is terribly scarred on page 8.

Art:

- Illustrate the closing sentence of this article: "...using a germ against itself—has saved millions of lives."
- Illustrate a flow chart showing how the dairymaid helped find a cure for smallpox.
- Illustrate a flow chart that shows how Cotton Mather learned information that reduced lost lives lost in Boston's smallpox epidemic.

"Teaching the Body to Fight Back" by Vijaya Khisty Bodach (Page 10)

Pre-reading:

Look at the pictures, caption, and title of the article. What do you think the title means: "Teaching the Body to Fight Back?"

Vocabulary: prevent, patrol, programmed, recognize, antigen, replicates, secrete, bind, antibodies, succumb, cloned, vanquished, exception, infection, vaccination, immediately, and destroyed.

Comprehension Check:

1. What do shots teach your body to do?
2. How do vaccines work?
3. Have you ever heard a vaccine described as a "live virus" or a "dead virus?" Which words match these descriptions in this article?
4. What does a B cell do if a germ enters your body?
5. When you get a virus, why might you feel sick for a week or two?
6. Tell about memory B cells. How do they help you to stay healthy?
7. What is one way to receive more memory B cells?

Art:

- Create a poster that promotes getting vaccines.
- Create a flow chart that shows germ fighting B cells in action.
- Illustrate a battle between B cells and antigens (germs) in your body.

Writing Activity:

1. Write a thank you note to the nurse or who gave you a vaccine.
2. Write a thank you note to the B cells in your blood. Post it on a mirror. Look at yourself in the mirror and say, "I am strong and healthy thanks to my B cells" or a similar positive statement.

"Quality Care for Kids" by Heather Mitchell Amey (Pages 11-13)

Pre-reading: Look at the pictures, captions, and title of the article. Name examples of improved health care for children.

Vocabulary: itched, gummy, ailment, tuberculosis, treatment, remedies, commonly, tended, deformities, paralyzed, tuberculosis, diphtheria, tetanus, scarlet fever, rickets, typhoid fever, cholera, separate, professionals, acknowledge, versions, developmental, specialized, dedicated, pediatrics, pediatricians, pioneer, standard, clinic, charity organizations, donations, entities, afford, established, institution, sophisticated, founder, aspects, influences, support, research, recommendations, maintain, prevention, topic, range, obesity, advances, strengthen, fortified, consequences, disappeared, introduced, understanding, convinced, vaccine, launched, conquered, combined, immunization, massive campaign, unfortunately, access, treatable, and benefits.

Comprehension Check:

1. Have you ever seen or worn a poultice? If so, tell about it. Ask your parents and grandparents if they know about poultices. Share what you learn.
2. What does the doctor mean when he says he thinks Betsy is "turning the corner?"
3. How are doctor visits today different than 100 years ago?
4. Explain this belief of doctors: "Children should not simply be treated as small versions of adults."
5. Tell how Dr. Job Lewis Smith's book helped doctors.
6. Tell how Dr. Abraham Jacobi helped children get treated.
7. What does the author mean when she says, "The first hospitals were charity organizations?"
8. Where were wealthy people treated by doctors?
9. What topics of concern does the American Pediatric Society have today?
10. Name three or more ways doctors try to prevent disease in children.
11. Why do many children in some parts of the world today still die from treatable illnesses?

Writing/Drama Activity:

1. Read the opening story about Betsy having the measles. Rewrite the lines as a short skit. Act it out before classmates, family, or friends.
2. Make a list of three or more ingredients that you would not want in a poultice that you had to wear.

Research:

- Select a disease named in this article and learn more about it.
- Dr. Abraham Jacobi
- Dr. Job Lewis Smith
- American Pediatric Society
- poultices

"Going, Going, Gone" by Kathiann M. Kowalski (Pages 14-15)

Pre-reading: Look at the pictures, words in boldface print, and title of the article. What do you think the title suggests is happening?

Vocabulary: multitude, contagious, dreaded, rare, advances, sanitation, enormous, descriptions, consumption, progressive, affected, transmitted, survive, antibiotics, cholera, vomiting, diarrhea, sewage, contaminated, avoiding contact, diphtheria, swelling, rare, dysentery, consume, dehydration, hygiene, rubella, respiratory, complications, typhoid fever, symptoms, and emitted.

Comprehension Check:

1. What are two reasons diseases from the 1800s are not common today in the United States?
2. What is another name for tuberculosis?
3. What is used to treat tuberculosis today?
4. Name one or more diseases you might get from unclean water.
5. How is diphtheria spread?
6. What usually causes dysentery?
7. Name three or more diseases that vaccines can prevent.
8. Which disease can cause damage to the heart or kidneys if not treated with antibiotics?
9. What is another name for pertussis?
10. What is another name for rubella?
11. What disease can lice, fleas, ticks, or mites carry?

Art:

- Create a poster celebrating antibiotics and diseases it treats that are featured here.
- Create a poster celebrating vaccines and diseases it prevents that are featured here.

- Create a poster celebrating diseases that are going, going, gone from America.

Research:

- DTaP vaccination
- Read and learn more about one of the diseases listed here. Learn where it is most commonly found.

Writing Activity:

1. Pretend two diseases can talk to each one. Write a dialogue telling why they can still be found even after a hundred years or longer.
2. Tell which disease frightens you the most and why.

"It Works! By Joyce Haworth (Pages 16-17)

Pre-reading: Look at the pictures, picture captions, and title of the article. Why do you think these plants are featured in this magazine? What do you think the title means?

Vocabulary: midwife, delivered, directed, scraped, steeped, suffering, active ingredient, eras, generations, variety, herbs, ailed, familiar, cures, bruises, poultice, injury, comfrey, effective, relieving, alert, damage, identified, digestion, preventing, recovering, scars, visible, combat, mild depression, infusion, broth, provided, easy-to-digest, equalizing, mucus, unplugging, stuffed nose, disinfectant, anesthetic, turpentine, properties, germ-killing, homemade remedies, and soothed.

Comprehension Check:

1. What are medicines made at home called?
2. What are two or more herbs or barks used for medicines?
3. Some settlers brought herbs with them from Europe. Tell why you think this was done.
4. Who taught settlers ways to use local plants for medicines?
5. Choose one of the medicines used today. Tell a modern use for it.
6. Have you ever been told to eat chicken soup when you had a cold? Is this really helpful? Why or why not?

Research:

- Charles Millsbaugh
- Cotton Mather
- Look up one of the homemade remedies listed.
- poultice

Writing Activity:

1. Ask grandparents and older family members if they ever tried homemade remedies. What were they? Did they work? Share what you learn with classmates or friends.
2. Write three or more questions you would like to ask Cotton Mather about garlic.

Art:

- Pretend to own an old-fashioned general store 100 years ago. Create a poster for a homemade remedy that your store will sell.
- Make a poster that compares the use of one of the remedies years ago with its use today.

"Paging Dr. Know-it-all! By Andrew Matthews (Page 17)

Vocabulary: diagnosis, telltale, symptoms, aches, prevented, immunizations, salivary, spasms, phlegm, vomiting, diarrhea, and torso.

Comprehension Check:

1. Do you know anyone who has had any of these diseases? What symptoms did they have?
2. Which of these diseases have you never heard of? Did you match them to the correct symptoms?
3. What magazine articles helped you match some of the items? Check your answers.

“Wacky Medicine” by Joyce Haworth (Pages 18-19)

Pre-reading: Look at the pictures, picture captions, and title of the article. Which treatment seems the wackiest to you? Why?

Vocabulary: annihilator, miracle, dung, pulverized, compiled, unpleasant, afflictions, advised, recommended, devoted, effects, remedies, turpentine, severe, consumed, flannel, fatal results, infected, apply, cured, bloodletting, purge, amputations, anesthesia, regulated, revealed, remedies, concoction, patent, insomnia, exhaustion, opium, controlling, historical, primarily, ancestors, issues, dandruff, advertised, properly, crustaceans, poisonous, extracted, and tonic.

Comprehension Check:

1. If you were a kid that liked to collect frogs, what type bugs would you collect for home remedies? Why?
2. Dung was used to treat some illnesses. What is dung? How was it served?
3. What does the author mean by “fatal results?”
4. Which of the wacky medicines mentioned here would you least like to take?
5. Why was it dangerous to drink turpentine?
6. Why did some patent medicines cause the patient to feel better?
7. Why couldn't the Pure Food and Drug Act of 1906 control all medicines?
8. What were some of the liquid patent medicines called?

Research:

- Bloodletting
- Pure Food and Drug Act of 1906
- Cotton Mather.

Writing/Drama Activity:

- Pretend to be a sick child during the 1800s. Write a short skit about a parent offering you a home remedy. Perform the skit for classmates, family, or friends.

Writing/Art Activity:

- Pretend to create a patent medicine. Give the medicine a name to go on the label. List what you claim the medicine cures. Create a poster design that will be placed on the medicine show wagon. The design will be reduced to fit the medicine bottles.

“Epic Epidemics” by Marcia Amidon Lusted (Pages 20-23)

Pre-reading: Look at the pictures, picture captions, subtopics, and title of the article. What epidemics are included? What methods were used to eliminate the diseases?

Vocabulary: stealthily, epidemics, impacted, panicked, motivated, alarming, personnel, experimented, inoculation, infected, epic, refugees, symptoms, easing, contagious, revealed, parasite, mosquitoes, transmitted, dysentery, conflict, determined, mosquitoes, eliminating, constructing, vaccination, contracting, critical, precautions, Influenza Pandemic, overwhelmed, estimated, nonmilitary, urged, banned, determined, devastating, malaria, symptoms, relapses, pivotal, insecticides, transmitted, prevented, terrifying, devastating, paralysis, inflames, initially, fecal matter, saliva, exposed, reduced,

opportunities, panicked, approved, vanquished, exception, mutating, devastating, donates, and sanitation.

Comprehension Check:

1. Name one positive health benefit that came about, due to the disease epidemics.
2. What disease caused President George Washington and others to stay away from the capital for months?
3. How long did it take before the cause of yellow fever was found?
4. What causes yellow fever?
5. What type experimentation was tried to prevent yellow fever? What other steps were taken?
6. Why are some people still at risk of contracting yellow fever?
7. How many people are estimated to have died from the Influenza Pandemic?
8. Why are the policemen wearing masks in the photograph on page 21?
9. Tell how the flu affected coffin-makers.
10. What was different about the way this flu attacked?
11. Tell where the HINI flu got its roots.
12. What were people urged to do to avoid the flu?
13. What percentage of the population got the flu?
14. How are yellow fever and malaria alike?
15. What did the army develop to prevent malaria?
16. Tell the effects of polio. Do you know any adults who had this disease as a child?

Research:

- Dr. Walter Reed
- Dr. Carlos Finlay
- Dysentery
- Polio—iron lungs
- Dr. Jonas Salk
- Ask your librarian for fiction and nonfiction books about diseases, especially diseases children experienced. For example, *Blue* is a historical fiction book by Joyce Hostetter, which tells of two girls in a polio hospital in Hickory, North Carolina.

Research/Writing Activity:

- Select one of the diseases listed here. Make a list of questions you have about the disease. Research for the answers.
- Pretend you are present in one of the photographs in this article. Write your thoughts and fears.

“Did You Know?” illustrated by Chris Ware (Pages 24-25)

Pre-reading: Look at the pictures, picture captions, and title of the article. Can you tell what country some of the words come from? What is used to help with some diseases?

Vocabulary: clarify, population, infects, location, process, protects, foreign agents, passive, antibodies, transferred, pregnancy, providing, pre-made defense, molecule, trigger, antibodies, foreign, antigen, widespread, geographic, immunization, weakened, bacterium, purposely, ultimate, protection, inoculation, vaccine, immunity, pandemonium, and specifically.

Comprehension Check:

1. Which illustration is your favorite and why?
2. Why is the child saying, “Thanks Mom!”
3. What would it be like if there were pandemonium?
4. Tell one or more things that vaccination and inoculation have in common.

Research/Writing Activity:

- Name a key disease term you would like clarified. Do you have specific disease questions? Write them down. Research to find answers to your questions.

“Reversing a Heavy Trend” by Faith Hickman Brynie (Pages 26-29)

Pre-reading: Look at the pictures, picture captions, subtopics, and title of the article. Do you think this trend will be easy to reverse? Why or why not?

Vocabulary: gulp, scary statistics, supersize, obesity, exempt, survey, obese, diabetes, contributing, percentile, awareness, response, advise, combat, crash diets, exercise regimens, tackling, maintaining, common-sense lifestyle, surviving, switching, merely, nibbling, portions, resist, munchies, puberty, acne, growth spurts, statures, polycystic ovary syndrome, noncancerous cysts, infertility, metabolic syndrome, cluster, deformity, constantly, banning, blob, and taunting.

Comprehension Check:

1. Why do you think this article was included in a magazine about deadly diseases?
2. Look at the pictures, picture captions, subtopics and title of the article again. Write down five words that may be key words. After reading the article, look back over your list and see if these words are indeed keywords.
3. The author speaks of “choosing to supersize.” Name other unhealthy eating choices.
4. What is one contributing factor for Type II diabetes in children, teens, and young adults?
5. Name two bits of advice about weight that hospital clinics are giving children and teens.
6. “Small changes can make a big difference,” says Dr. Carol Foster, with the University of Michigan. Name one small recommendation that makes a big difference.
7. What does Foster say are the best drinks?
8. Name five of the listed healthy snacks. Is there one or more you could add to your personal list?
9. The article suggests eating smart. Name one suggestion you will choose.
10. How does being overweight affect puberty?
11. Describe metabolic syndrome in obese boys and girls.
12. What does Foster frown on doing?
13. What does the picture caption on page 29 suggest that you should not do?
14. What is causing some children to never become tall?

Writing/Goal Setting Activity:

1. Think of one bad eating habit you would like to break. Write a strategy for reversing that trend. For example, when I am offered a soda, I will ask for water or milk instead.
2. What are your favorite sports and physical activities?
3. Write a slogan for good health choices. Share it with your classmates, family, and friends. Consider sharing health tips during your school’s daily announcements.

Research:

- Type II diabetes in children, teens, and young adults
- Metabolic syndrome

Art:

- Create posters to encourage good eating habits, favorite sports, and physical activities.
- Create a slogan for good health choices. Make a poster that illustrates the slogan.

“Armed Against Aids” by Faith Hickman Brynie (Pages 30-33)

Pre-reading: Look at the pictures, picture captions, and title of the article. What overall feeling does the article present toward this deadly disease? What do you think is the meaning of the title?

Vocabulary: jeopardy, immunodeficiency virus, fatal, infancy, international, unprotected, realize, rehabilitation, unsterilized, infection, reproduction, staggering, statistics, orphans, killing spree, immune system, magnified, microbes, symptoms, contaminate, mosquitoes, injection, mucous membranes, duplicates, invades, defense, nucleus, combat, mutations, resists, antiviral medicine, addicted, informed, and foundation.

Comprehension Check:

1. What is meant by “shared needles?”
2. What does a looped red ribbon represent?
3. In which country are there huge numbers of orphans due to their parents’ death of AIDS? How many children?
4. How can a person be HIV-positive and not know it?
5. Why is there a spoonful of pills shown on page 32? Are these drugs a cure? Why or why not?
6. How long does it usually take for someone to go from HIV-positive to having AIDS?
7. How are pre-born babies and infants infected with HIV?
8. How long has HIV/AIDS been a virus and disease?
9. What has HIV/AIDS research been able to achieve?

Writing Activity/Research:

- Write three questions you have about HIV/AIDS. Ask a parent if you may go to the websites listed on page 33 to search for answers to your questions.
- Write a response to Sarah, Jessica, or Michael’s comment on page 33.

Art:

- Design a poster that tells facts about HIV. Spell HIV out in colored pills.
- Design a poster that tells facts about AIDS. Spell AIDS out in colored pills.

“Stop the Spread!” by Andrew Matthews (Pages 34-35)

Pre-reading: Look at the pictures and title of the article. What is the person pictured trying to stop?

Vocabulary: situation, scenarios, immune, immediately, requires, realize, inhale, appetite, periodic, promptly, exhausting, reminds, miserable, ignore, and hydrated.

Comprehension Check:

1. What is meant by periodic coughing fits?
2. What does your body need when you are sick that you won’t get if you stay up all night?
3. What hygiene tip was suggested for someone with a cold?
4. Why do you think a common cold spreads so easily?

Art/Writing Activity:

- Illustrate a scene with a large crowd. Create one person with cold symptoms: coughing, sneezing, wiping his nose, etc. Show germs coming forth and seeking victims. Write conversations in bubbles above the germs’ heads.
- Draw the scene described above again. This time have some people in the crowd respond to the person with cold symptoms. Write comments in bubbles above their heads.

“Now What?” by Cynthia Levinson (Pages 36-38)

Pre-reading: Look at the pictures, picture captions, subtopics, and title of the article. What do you guess are key steps in disease control?

Vocabulary: interviewed, epidemiology, communicable, analyzing, infectious, vaccination, principles, controlling, transmission, interventions, agencies, pandemic, emerge, severe strain, detected, threat levels, determined, contagiousness, virulence or severity, aspects, parasites, circulate, populations, resistant, predict, containing, options, isolation, quarantining, disrupts society, recommendation, executed, emerges, wince, commissioned, particle, and directs.

Comprehension Check:

1. Name one way a computer is used in studying diseases.
2. What was Dr. Marc Lipsitch's assignment at the time he was interviewed for this magazine article?
3. What people are most responsible for spreading the flu?
4. Mexico's method of reporting flu cases made determining the treat level of H1N1 difficult. How?
5. Threat levels of a disease can _____ over time. Scientists check for the number of cases, and how severe they are.
6. What are scientists looking for in animals that could harm people?
7. Why are some infections so difficult to treat?
8. What is the Surgeon General's term of office? Who appoints him?
9. Name some of the jobs of the Surgeon General's office.

Writing Activity:

- What is a question you would like to ask Dr. Marc Lipsitch about his job?
- What is a question you would like to ask the Surgeon General about his job?

Research:

- www.surgeongeneral.gov.
- Centers for Disease Control and Prevention
- "Social distancing"

"Feeling Flu-ish?" by Marc Siegel, M.D. (Page 39)

Pre-reading: Look at the pictures, picture captions, and title of the article. Scientists study the makeup of viruses. Others create vaccines. What do they recommend you do?

Vocabulary: receptors, maintaining, transfer, pandemics, progressively, coincidence, combating, involvement, microbiologist, reconstructed, makeup, vaccination, fatigued, experiencing, intensely, pneumonia, complications, circulate, reservoirs, harboring, gastrointestinal tracts, immunity, mutate, sufficiently, flu strains, frequently, combination, and emerging.

Comprehension Check:

1. What groups of people are more likely to have other health problems as a result of getting the flu?
2. Which variety of the flu is less serious to humans? A, B, or C?
3. Tell about Influenza A and where it originates.
4. What must avian and swine flus do to pass to humans?
5. What does the author compare virus mutation to?

Graphing Skills:

- Draw a chart showing deaths in the millions for the three flu pandemics listed in the article. Discuss the data on the graph.

Art/Writing Skills:

- Create posters that encourage people to get the flu shot each year.

“World Checkup”—Going Global by Marcia Amidon Lusted, illustrated by Bryan Langdo (Pages 40-41)

Pre-reading: Look at the pictures, subtopics and title of the article. “Going Global” reminds us that diseases are world-wide. What words or pictures left an impression on you? Tell about it.

Vocabulary: bubonic plague, recurred periodically, standstill, infected, symptoms, delirium, lymph nodes, splotches, population, labor shortage, social confusion, mysterious, severe, acute, respiratory, syndrome, authorities, appearing, imposed, quarantines, international, boycott, urged, economic toll, involved, malaria, production, transmitted, reoccurring, vomiting, breeding grounds, unchecked, casualties, occur, organizations, implemented, reduce, pledged, insecticides, and estimated.

Comprehension Check:

1. Name one way a disease changed the course of history.
2. How did the bacteria spread that was believed to cause Black Death?
3. What were some of the symptoms of Black Death?
4. What problems or shortages did the Black Death cause?
5. Tell about the China’s epidemic in 2002.
6. How did the epidemic in China hurt their economic standing?
7. Where do the majority of deaths from malaria occur?
8. What are two reasons it is hard to eliminate malaria in Africa?
9. What does the author mean when she says, “...malaria has spread almost unchecked since the 1990s?”

Art/Writing Activity:

- Illustrate the Hundred Years’ War coming to a standstill because of the bubonic plague. Write comments in a bubble above soldier’s heads.
- Create posters giving tips on how to fight malaria.

“Never Forget”—Dr. D’s Mystery Hero by Dennis Denenberg, illustrated by Lisa Fields (Page 45)

Pre-reading: Look at the pictures and title of the article. What do you guess this person is doing?

Vocabulary: unsung, immigrant, curious, reflecting, considered, profession, persuaded, focused, devoted, stitched, audiences, and deserves.

Comprehension Check:

1. Why does the author call this mystery person an “unsung giant among heroes?”
2. Why do you think the mystery person’s mom encouraged him to go into medicine?
3. What childhood trait was a strength for the mystery hero in future medical research?
4. What motivated this mystery hero? Money? Why or why not?

Art/Research/Writing/and Bulletin Board Activity:

- Create posters that honor this mystery hero. Create a bulletin board with a caption such as Thank You, (mystery character’s name) or Never Forget (mystery character’s name). Display facts learned through researching this mystery character.
- Write one or more questions you have about this mystery hero. Research to discover the answers.

“Spotlight on Disease Central!” by Cynthia Levinson (Page 46)

Vocabulary: appoints, encourage, lifestyles, emerging, threats, malaria, tuberculosis, influenza, cholera, and smallpox.

Comprehension Check:

1. Who appoints the director of the Centers for Disease control and Prevention (CDC)?
2. What is the CDC's mission?
3. Who is the CDC paired with?
4. Why was the CDC originally founded?

"A Swine Fellow" (Back Cover)

Pre-reading: Look at the pictures and title of the article. What is your reaction to the photograph?

Vocabulary: circulators, occurred, transmitted, revealed, restore, reputation, intelligent, functional, protection, domesticated, relied, considered, unfit, consumption, and cultures.

Comprehension Check:

1. H1N1 was not carried by pigs. So why was it called swine flu?
2. What do pigs do to cool off?
3. How popular is pork as human food?
4. What are two positive traits of pigs?

Writing Activity:

- Write two statements the pig wearing a mask might say to humans about H1N1.
- Write an apology to the pictured pig for any unkind remark you have ever made about pigs.