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The Human Body				
Chapter 6 - Lesson 2: What are Infectious Diseases?				
Page	Question	Answer(s)	Links/Sources	Student Resources
226	Are all infectious diseases communicable? Why or why not?	No, because some infectious diseases. Such as tetanus and food poisoning, are not spread from person to person		
226	Why might a doctor need to test a patient's blood?	*Sample answer: To test for a virus or bacteria, to help diagnosis a disease.		
226	When leeches removed "poisons" what else were they removing from the body?	Blood and any disease causing pathogens in the blood that was removed. - I included interesting article on Leech Therapy	https://www.healthline.com/health/what-is-leech-therapy	
226	Why do you think why did this happened?	Sample answer: Crude instruments were used, no disinfection, some hospitals were built on waterways that had sewers, lack of antibiotic drugs, etc.	https://cha.com/wp-content/uploads/2017/11/AJIC-2012-Infection-Control-Through-the-Ages.pdf	
226	What are some factors that put you at risk for diseases caused by bacteria?	Sample answers: Being in close contact with someone is has an infection, not washing your hands regularly, eating food that is not properly prepared, stored, or served, getting an injury that causes a tear or break in the skin		
227	How are disease spread?	Sample answer: Through air that has disease particles present in it? By someone who has a disease touching you, sneezing or coughing on you. By touching surfaces that have been touched my many different people, from sharing food or drinks.		
227	How does disease move through a population?	Sample answer: By infected people coming in close contact with people who are not infected.		
227	What might be the source for some unknown diseases?	Sample answer: By known disease mutating into new forms, from wild animals.		
	What are some ways that the body's immune system can fight against a viral infection once it gets past the first line of defense:	*Sample answer: Sample answer: The inflammatory response can cause a fever, slowing down the growth of the virus and destroying virus cells.		

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228	Why do you think colds are so hard to fight?	*Colds are caused by viruses, and there are no drugs available to kill the virus causing the cold.		
228	Why do you think people get fewer colds as they get older?	*Sample answer: They know more about how to avoid colds. They develop resistance to the cold virus.		
228	What infectious diseases are caused by bacteria? By viruses?	Bacteria; Strep throat, Lyme disease, cholera, tetanus, syphilis, tuberculosis, etc.; Viruses: flu, chicken pox, measles, common cold, COVID-19 (add in)	https://www.healthline.com/health/infections#1	
228	Why do you think it needs a living cell?	Sample answer: Because it needs the working of the cell and the cell's resources to duplicate itself.		
228	What happens to the host cell?	It dies.		
228	Why are you less like to catch a cold as you get older?	Your body has produced more antibodies to fight it		
228	Why do you think more people get colds in cold weather?	Sample answer: Because people spend more time in enclosed places, if they get chilled their immune system may be weakened .		
228	How can you protect yourself from catching a cold?	Sample answer: Get plenty of fresh air, rest, and water. Wash your hands frequently and avoid situations where people might cough or sneeze on you.		
228	How can you decrease the chance of spreading a cold you have to others?	Sample answer: By staying away from people if possible, covering your cough or sneeze, by frequently washing your hands, do not share food or drink,.		
228	What are some ways to protect yourself from getting hepatitis?	Vaccination, washing your hands, avoid eating contaminated food especially when traveling - avoid street vendors, boil eating utensils, avoid intimate contact or contact with body fluids.	https://www.immunize.org/catg.d/p4402.pdf	
229	How long does it take bacteria to grow?	*Bacteria divide about every 1-3 hours doubling their population size.		

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229	If food looks clean and fresh, is it free from harmful bacteria? Why or why not?	*Bacteria are microorganisms, too small to be seen with the unaided eye, so it is always possible that food has harmful bacteria.		
229	Do you have any of these bacteria on you skin today? How can you tell?	*Help students recognize that they can't tell. They have to assume that they are carrying these bacteria.		
229	How can you protect yourself from bacteria that are all around you?	*Sample answer: Wash your hand often. Do not put them in your mouth. Do not share food, drinks, straws, or eating utensils with others.		
229	What are some of the procedures that hospitals take to prevent this infection?	*Sample answers: Rules about proper hand washing, requiring visitors to wash their hands, using alcohol-based gels to disinfect hands, wearing gloves, promptly cleaning spills, using sterile equipment.		
230	What effect would healthful living have on any of these disease?	*Healthful living would help prevent someone from getting any of these diseases.		
230	How do you think this food was poisoned or contaminated?	*Food handlers who did not wash their hands, bacteria in the soil or in raw meat are some examples.		
230	Do you know anyone who has had food poisoning. What were the symptoms?	*Sample answer: Yes, their symptoms included nausea, throwing up, stomach cramps, diarrhea, fever, and headache.		
231	How do travelers spread disease?	*Sample answer: Germs can be transmitted though water droplets when coughing, direct contact with an infected person, or food contamination.		
231	How might you avoid tick bites?	*In addition to using high strength insect repellents and wearing long sleeves and long pants and high top shoes. You can avoid tick bites by showering or bathing within two hours of coming indoors."		

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231	Where might tick be likely to attach themselves to you?	*Key areas to check are under the arms, in and around the ears, in the belly button, behind the knees, between the legs, in the hair. Ticks can also attach to clothing or pets, so it is important to check those as well. Putting clothes in the dryer on high heat for an hour is a good way to ensure that you have killed any remaining ticks.		
232	Do you think that the benefits of using DDT to control mosquitoes outweigh its consequences?	*Sample answer: The use of DDT may be effective in decreasing the number of malaria cases, but humans will still be at risk because of the poison it releases into the environment.		
232	What are some symptoms of someone who is infected with malaria?	*Usually an individual with malaria will show flu-like symptoms. Symptoms appear in seven days. Other symptoms include fever, chills, headaches, sweats, fatigue, and nausea.		
232	Why might this be?	*Developing countries do not have access to the same water-treatment technology that developed countries such as the United States have.		
232	Why might boiling water help?	*Boiling water can kill the organisms.		
232	What additional precautions could you take to prevent yourself from becoming infected with malaria?	Preventive medication. Stay indoors in screened homes, long-sleeved shirts and long pants, use insect repellent, sleep in mosquito nets treated with repellent, treat clothing with permethrin.	https://www.cdc.gov/malaria/resources/pdf/fsp/drugs_2017/travelers_2017.pdf	
232	Why is this common in developing countries?	Poor sanitation, contaminated food and water.		
233	Why do you think athlete's foot is most commonly spread on communal showers and swimming pools?	*Sample answer: These areas are most likely warm and moist, which provides an environment for the fungus to grow.		

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233	How is this the same and different?	*Sample answer: The new medications and surgical techniques come from the minds of people, a mind that God created to be able to solve difficult problems in creative ways. The miracles of the Bible were accomplished directly by God or by a person who He worked through.		
233	In what ways can disease be prevented from spreading by direct contact?	*Sample answer: By hand washing, avoiding touching surfaces that may be contaminated, cleaning surfaces with antibacterial products.		
233	How do you think these water droplets are spread?	*Sample answer: Through sneezing, coughing, or talking. Explain that a sneeze can propel droplets at a speed of up to 161 km/hr.!		
233	What animals other than humans might get ringworm?	Dogs, cats, cattle, sheep, goats, pigs, rodents, rabbits, and birds.	https://www.cfsph.iastate.edu/FastFacts/pdfs/dermatophytosis_F.pdf	
233	What are some factors that might affect how the spread of disease can be slowed or stopped.	Sample answer: By developing more vaccines that can be used to prevent infection by virus, developing new medications designed to kill pathogens, continued public education aimed at informing people how to avoid infection of pathogens, providing more financial resources aimed at improving living conditions in poor areas.		
233	Since the animals that spread these disease are all around us, how might people control the infectious diseases that are spread by them.	Sample answer: Washing hands with soap and water after contact with animals or the places they live, monitoring animals for infections, using veterinary services to treat infected animals, improving animal health.		

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233	How do you suppose vaccinations fight off infectious diseases?	Weakened pathogen is introduced in the body, the body produces memory cells and antibodies that attack the weakened pathogen. When the pathogen invades the body, memory cells produce antibodies to fight off the pathogen.	How a Vaccine Works, page 235.	
234	What places are at high risk for contamination?	*Sample answer: Door knobs, bathroom fixtures, desk tops, drinking fountains.		
234	What is the most effective way to prevent contracting an STD?	*Sexual abstinence, getting vaccinations is effective for some STDs.		
234	How do you suppose vaccinations fight off infectious disease?	Sample answer: By boosting our own immune system to develop more antigens and antibodies.		
235	How might injected, oral, and nasal vaccines be different?	*The vaccines differ in the kind of virus used in the vaccine. Typically injected vaccines inactive vaccines, oral and nasal vaccines contain live viruses.		
235	Why do you think young children and older adults are advised to get injected vaccines?	*Sample answer: Young children and older adults may have weaker immune systems, so the vaccines and the live viruses used in oral and nasal vaccines contain live viruses which could make them ill.		
235	How does a booster shot "boost" your immune system against a deadly disease?	*A booster shot activates the memory cells to produce antibodies to inactivate pathogens.		
235	What are the risks of vaccines?	*Sample answer: Mild swelling at the injection site, soreness, and cold-like symptoms are mild reactions that might occur after a vaccination. Severe side effects could occur, such as an allergic reaction.		
236	In which year did the measles cases peak? What was the highest number of cases?	*Measles cases peaked in the late 1950s with nearly 800 thousand cases.		
236	How many fewer measles cases were there within five years after the vaccine was licensed?	*There were about 450 thousand fewer cases.		

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236	Base on this graph, what might cause the number of measles cases to rise again?	*Sample answer: Children may not be getting the vaccinations; the measles pathogens may develop resistance to the vaccine.		
236	Does this graph support the value of vaccine? Why or why not?	*Sample answer: Yes, because there is a dramatic decrease in the number of cases after the vaccination started being used.		
236	What makes milk turn sour?	*Bacteria in the milk start growing.		
236	Where do the bacteria come from?	*Some are in the milk from the beginning. Others might come from the air or from equipment in the dairy.		
236	What other foods are pasteurized to kill bacteria?	*Sample answer: Cheese, juice, water, and eggs.		
236	Why were Pasteur's experiments important?	*He discovered the cause of many diseases, so doctors could start preventing and treating those disorders.		
237	Other scientists repeated Pasteur's experiment. However, sometimes the broth spoiled in the flasks with long necks. How could this happen?	*Sample answer: The flasks may not have been completely sealed, allowing bacteria to enter through the necks.		
237	How can you observe the benefits of pasteurization?	Sample answer: You can test what happens to milk if it is not pasteurized and compare it to milk that is pasteurized.		
237	Why doesn't that milk spoil?	Sample answer: These products have been ultra pasteurized - they have been heated to very high temperature to completely kill off all the bacteria present in the milk.		
237	How does this improve out economy?	Sample answer: It results in less food waste which helps keep prices lower and it reduces the likelihood of food poisoning resulting from using these products.		
237	How many of them have been pasteurized?	Sample answer: All of the dairy products I looked at were pasteurized,		
238	What does <i>anti</i> mean?	*Against.		

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238	What does <i>bio</i> refer to?	* Life.		
238	So does <i>antibiotic</i> mean against life?	*Actually it means against microorganisms, not life.		