

Grade 8				
Ch. 5 Lesson 3				
The Human Body				
Page #	Question	Answer(s)	Links/Sources	Student Resources
181	How can you lower your risk of developing a carcinoma?	Sample answer: Protect your skin from harmful UV rays by applying sunscreen, wearing long sleeve shirts and pants, and wearing a hat. A healthy diet and exercise also reduce your risk.		
181	How many cells make up the human body?	Sample answer: About 37 trillion cells.		
181	How many cells divide in the short time you have studied this page?	Sample answer: About 220 million per minute	https://www.sciencealert.com/your-body-makes-4-million-cells-a-second-and-most-of-them-are-blood	
181	What causes cancer?	Sample answer: It happens when cells no longer divide properly.		
181	What are common cancers you know about?	Sample answer: Skin cancer, breast cancer, colon cancer, lung cancer.		
181	What steps are scientists taking to find a cure for cancer?	Sample answer: They are researching better ways to detect cancer earlier, they are researching new ways of treating cancer, including new techniques using genes in cancer treatment.		
181	How might a doctor diagnose and treat each type of cancer?	Cancers can be diagnosed by various early detection methods. Cancers are treated by chemotherapy, radiation therapy, gene therapy, immunotherapy, hormone therapy, and by surgery.		
182	Why is the cell cycle important in cancer research?	*When understanding cycles, scientists can find steps of the cycle that become unusual.		
182	What stage is the shortest?	*Sample answer: The shortest phase is the M-phase (mitosis).		
182	How do cancers grow?	*Sample answer: The cell cycle does not stop and continues to produce cells resulting in a tumor.		
182	Why haven't researchers found cures for most types of cancer?	*The cell cycle is very complicated, so it is difficult to understand what goes wrong and why.		
182	What parts of the cell cycle do you think interests cancer researchers most? Why?	*Sample answer: They probably are studying enzymes that control the cell cycle to see how and why things go wrong. The better they understand that, the more kinds of cancer they can cure.		
183	How can you take a biopsy of a tumor?	A biopsy can be taken with a syringe or small cut to remove a piece of the tumor.		

183	How much tissue (gelatin) will your damage to obtain a biopsy of a tumor (fruit)?	Not very much if I use a syringe.		
183	How much more difficult is it to take the biopsy when the tumor is hard to see?	In order to take a biopsy, it is essential that you have a good view of the tumor before taking the sample so the least amount of damage occurs to the surrounding tissue.		
184	What is the difference between a benign and malignant tumor?	*A benign tumor grows more slowly, does not spread, and is enclosed by a membrane. Malignant tumors tend to grow fast and can spread.		
184	How is a tumor like a garden weed?	*A tumor also competes for nutrients and crowds healthy living things.		
184	What is the chance of developing cancer if you carry an oncogene?	Your risk of developing cancer increases if you carry an oncogene.		
185	What does the diagram tell you about how cancerous skin cells spread?	*Cancer can spread very rapidly through the blood stream and the lymphatic system.		
185	Why is skin cancer more common in people who regularly visit tanning salons?	*Whether you get a tan laying on the beach or in a tanning bed you are causing your skin damage by ultraviolet radiation (UV).		
185	What can you do to reduce your risk of getting skin cancer?	Sample answer: Avoiding UV exposure is your best defense against skin cancer. Using sunscreen, even on cloudy days is a good barrier to UV damage.		
185	How can you and your friends avoid smoking?	Sample answer: By never starting to smoke, avoid situations where the temptation to smoke is present.		
185	What do you think is the most common type of cancer in the United States and Canada?	Sample answer: Breast cancer, lung cancer, and prostate cancer.		
185	If you practice a healthy lifestyle, can you be certain that you will not develop cancer? Why not?	No. Some cancers are develop from the genes you inherit. A healthy lifestyle reduces the risk of these cancers, but does not eliminate completely.		
185	How can understanding viruses prevent cancer?	Sample answer: Viruses are small pieces of DNA or RNA that reproduce in living cells and cause the host cell to produce more viruses. About 15% of cancers may have a viral origin. By studying viruses we can better understand how cancer cells work.		
185	Why is skin cancer more common in people who regularly visit tanning salons?	Because tanning salons increase one's exposure to harmful UV rays.		
185	What can you do to reduce your risk of getting skin cancer?	Sample answer: Avoiding UV exposure is your best defense against skin cancer. Using sunscreen, even on cloudy days is a good barrier to UV damage.		

186	How should knowing this affect our self-worth and lifestyle choices?	*God considered us valuable enough for Jesus to come and die for us. So we are very valuable in heaven's eyes. This should make us want to follow the guidelines that make us more healthy.		
186	Why does a dentist place a lead apron on patients before taking x-rays of their teeth?	To protect them from exposure to harmful x-ray radiation.		
186	In what industries do you think workers have exposure to radiation?	Sample answer: Medical, technology, manufacturing, scientific research, nuclear power.		
186	Do you think people who travel a lot should be worry about the amount of radiation they are exposed to? Why or why not?	Sample answer: No. The levels of radiation exposure is very small.		
187	What other information would be helpful to your classmates?	*Students should prepare posters that informative. Students may prepare public service announcements about their research.		
187	How does physical activity keep you healthy?	*Sample answer: It controls weight; maintains strong bones, muscles, and joints; reduces blood pressure and diabetes ; reduces heart disease.		
187	How is being physically active related to maintaining a healthy weight?	*Sample answer: It helps me maintain a healthy weight and builds strong bones and muscles.		
188	In addition to the tips below, what other healthful lifestyle choices can you make?	Sample answer: Stand up more, eat more cruciferous vegetables, get regular medical check ups, have the recommended screenings, get vaccinated, cut back on eating red meats, eat more dark leafy green vegetables.		
	* Means the answer is found in the TE.			