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| **Activity 1.3.1: The Autopsy**  |

Introduction

In the previous lessons, you were introduced to the case of the mysterious death of a woman named Anna Garcia. You investigated the crime scene, analyzed the evidence, and performed DNA profiling. When a mysterious death occurs, an autopsy is required. Therefore, an autopsy is required for Anna. Those of you who watch television shows such as *CSI* or *NCIS* are most likely familiar with this procedure. An autopsy is a systematic examination of the entire body to determine the manner and cause of death. This procedure often involves extensive analysis of the tissues and body fluids for clues about cause of death or evidence of chemicals and toxic substances.

The organs in the human body are classified into *systems*, groups that work together to perform specific functions. For example, the organs of the skeletal system work to support the body, as well as protect the body’s internal organs. Problems with one body system can have minor, moderate, or very serious effects on other systems. Medical professionals often do not have an easy time understanding why changes in our bodies occur, even though modern medical technology has made huge strides in understanding the physiological changes that occur due to disease, aging, genetics, and the use of pharmaceuticals. In diagnosing a problem or determining cause of death, many pieces of information must often be linked together before a conclusion can be reached. In this activity you will begin to explore the systems of the human body. You will watch an interactive slide show with information about autopsies and a video describing the tools used for an autopsy. Finally, you will be given the first piece of Anna Garcia’s autopsy report and analyze key findings. You will put all of the evidence that you have collected thus far together in the next activity and determine the manner of Anna’s death (accident, homicide, or natural causes).

Equipment

* Computer with Internet access and Inspiration® Software
* Laboratory journal
* PBS Course File
* Unit 1 - Investigative Notes Resource Sheet
* Human Body Systems Matching Resource Sheet
* Human Body Systems Matching Activity Cards
* Scissors (optional)
* Tape or glue
* Activity 1.3.1 Autopsy Report resource sheet

Procedure

Part I: Zoom in on the Human Body

1. Take out a sheet of paper or use a page in your laboratory journal.
2. List as many human body systems as you can.
3. Obtain a Human Body Systems Matching Resource Sheet. Scroll down the list of human body systems and compare the names of the systems with your list. Note: The reproductive system is not included on this list.
4. Obtain a set of matching cards from your teacher. Alternatively, obtain the Human Body Systems Matching – Activity Cards Resource Sheet and cut out all of the cards.
5. Spread the cards out on your desk. Note that some cards list functions of body systems while other cards list key structures.
6. Use prior knowledge and clues in the cards to match a function card and a structure card with the appropriate system on the Human Body Systems Matching Resource Sheet. Place the cards next to the name of the system.
7. Pair up and compare your work. Debate any differences.
8. Once you have checked your work, tape or glue your cards to the appropriate location.
9. File the Human Body Systems Resource Sheet in the in the appropriate tab of your course file. Use the PBS Course File – Table of Contents as a guide.
10. Answer Conclusion Question 1.

Part II: What is an Autopsy?

1. Go to the HowStuffWorks.com website to read the article “How Autopsies Work” written by Robert Valdes, available from <http://science.howstuffworks.com/autopsy.htm>. Make sure to watch the Dr. G Tools of the Trade video embedded in the article.
2. Use the page buttons or the next arrow to read all the pages of information about autopsies. Take notes in your laboratory journal.
3. Define the following terms in your laboratory journal: cause of death and manner of death.
4. Complete an interactive autopsy simulation at <http://australianmuseum.net.au/interactive-tools/autopsy/>.
5. Complete conclusion question 2 and 3.

Part III: Anna Garcia

1. Obtain Activity 1.3.1 Autopsy Report resource sheet from your teacher.
2. Read through the report and brainstorm ideas with a partner as to what you think the findings suggest. Document your ideas on your Unit 1 - Investigative Notes Resource Sheet. Use the Internet to research any words or phrases that you do not understand.
3. Note that you will be acquiring pieces of Anna’s autopsy report and medical history throughout the course. These documents will become part of your PBS Course File.
4. With a partner, think about all of the evidence you have encountered in Unit 1 and brainstorm possible causes of death. Include your ideas in the Possible Causes of Death section on the Activity 1.3.1 Autopsy Report.
5. File Activity 1.3.1 Autopsy Report in the appropriate tab of your course file. Use the PBS Course File – Table of Contents as a guide.
6. Answer the remaining Conclusion questions.

Conclusion

1. Describe an example of two human body systems working together to perform a specific function.
2. Why are autopsies performed? Give specific examples.

1. Suggest reasons why autopsies are required when a person dies as the result of an automobile or unwitnessed accident.

1. What additional information do you need in order to determine the cause of death for Anna Garcia?
2. Why does an autopsy include an examination of all the body systems and not just the suspected cause of death? For example, if a victim has massive head trauma from an automobile accident, why is a complete autopsy performed, including a toxicology report?

1. Suggest three specific reasons why determining the cause of death can sometimes be difficult.