[redacted] The Mystery Study Guide

1.1.a. What causes death?

The failure of one system can cause failure of next→ ending in lack of brain activity

1.1.b. What clues may be found at a scene of a mysterious death that may help to determine the cause of death?

Vomit, blood, fingerprints, DNA, saliva, bite marks, bullets, poison, etc

1.1.c. If someone was interested in a career with responsibility to determine the cause of death, what careers should he or she consider and investigate?

Forensic Pathologist (Medical Examiner)	Medical doctor that primarily does autopsies and determines cause of death
Toxicologist	PhD (usually) who tests body fluids (blood, vitreous humor, urine) for presence of toxins & medications to help determine cause of death
Coroner	Elected official that works with police & helps decide whether to have autopsy & whether a crime has been committed

1.1.d. What are examples of human body **systems**? 1.1.e. What **organs** make up the different body systems?

Urinary *"place for pee"*	**Nervous** *"full of nerves"*	**Endocrine** *"secrete within"*	**Digestive**	**Respiratory**	**Cardio**. *"heart & small vessels"*	Immune
Kidneys Ureters Bladder Urethra	Brain Spinal Cord Peripheral Nerves Sense organs (taste buds, ears, eyes, etc)	Pancreas **Thymus** Thyroid Pituitary Pineal Gland Adrenal Glands *("toward kidneys")* Ovaries/Testes	Teeth/Tongue Salivary Glands **Pharynx** Esophagus *("eater within)* Stomach Small Intestine Large Intestine (Colon) Rectum Liver Gall Bladder	Nasal Cavity **Pharynx** Larynx Trachea *("air tube")* Bronchus Bronchiole *("little bronchus")* Alveoli*** *("hollow")* ****then back the opposite direction*	Atria *("entrance halls for blood")* Ventricles *("bellies" that pump out blood)* Veins Venules *(little veins)* Arteries Arterioles *(little arteries)* Capillaries *("hairs"→place arteries turn to veins)* Erythrocytes *("red cells")*	Bone Marrow **Thymus** Spleen Lymph Nodes *("water knots")* Tonsils Leukocytes *("white cells")* **Appendix**

1.1.f. What are examples of interactions between body systems?

Urinary	Filters waste out of blood, removing cellular waste from all systems
Nervous	Tells other systems what to do via electrical signals (i.e. signal to poop)
Endocrine	Secretes hormones that signal other systems to do things (i.e. hunger)
Digestive	Absorbs nutrients (small intestine) to feed all other systems
Respiratory	Brings in oxygen needs by all cells and removes carbon dioxide waste
Cardiovascular	Transportation system→brings nutrients, hormones, O_2 to all systems, carries waste away
Immune	Protects us by preventing, trapping and killing pathogens *("disease starters")*
Skeletal	Provides structural support, protects soft organs (i.e. heart) & makes blood cells

1.1.g. What might be the consequence of malfunctions in any of the body systems?

Urinary	Waste will build up, killing person (kidney failure) unless they have dialysis
Nervous	Miscommunication causes problems like paralysis, Parkinson's, epilepsy, etc
Endocrine	People can experience gigantism, thyroid disorders, clotting disorders (hemophilia), etc
Digestive	Celiac disease, Crone's disease, etc can interfere with absorption of nutrients
Respiratory	Cystic fibrosis or infections can cause fluid build-up, person can drown
Cardiovascular	Vision loss or limb loss if blood doesn't circulate to those areas (like in diabetes)
Immune	Autoimmune disorders if it's overactive, inability to fight disease if it's underactive
Skeletal	Can't fight disease if not making WBCs, can't circulate oxygen if not making RBCs

1.1.h. What is a system?

Parts that work together to do a job (i.e. a SCHOOL system, a BODY system, a COMPUTER system☺) In the case of human body systems, similar **cells** make up **tissues** and the tissues form organs, which work together.

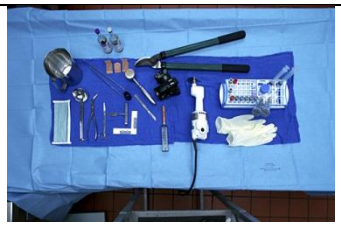
1.1 i. Are all sources of information accurate and reliable?

Sources are listed as **citations** in a **bibliography**. **Primary sources** are firsthand accounts (Darwin's Origin of Species & **secondary sources** reference primary sources (modern biology books). We should always cite all sources used to avoid **plagiarism**. Students use sources, but **outline** and summarize and rewrite the information to show their own understanding when writing answers to conclusion questions.

1.1.j. How can you tell if information on the Internet is accurate and reliable?

the ONION AMERICA'S FINEST NEWS SOURCE™	Anything with answers in the name are NOT (i.e. Yahooanswers, wikianswers, etc). If anyone can post there, it's NOT reliable. Government sites (.gov) and educational pages (.edu) are usually MOST reliable. Information is usually reliable if the SAME answer can be found on MULTIPLE sites (that's why it's good to have **documentation** of at least 2 sources).

1.1.k. What is an autopsy and how can it be used to determine the cause of death?

A medical examiner opens up the body cavities, weighs and examines organs, extracts fluids for a toxicologist to analyze. **Autopsies** *("self eyes")* let medical examiners see things with their own eyes. It's also called a post-mortem *("after death")* and used to determine cause of death. Autopsies on people who have been murdered fall into the category of **forensic** *("crime")* **science**.	

1.1.l. Why is confidentiality of patient information important? 1.1.l. Who should keep patient information confidential?

Everyone deserves privacy to prevent embarrassment and possible damage to relationships or loss of job. **Biomedical scientists** (EMTs, Medical Examiners, any kind of doctor, nurses, pharmacists, etc,) can be fired or sued or even lose their license for violating HIPAA.

1.1.m. Is there ever a time when patient confidentiality should be broken?

Patient confidentiality can be broken for a patient who is under 18 (parents have rights to their info) or someone who signed a release form (for a spouse, etc, to have access) or in cases of suspected abuse