

<https://illinois.pbslearningmedia.org/resource/amex26-sci-novel/tales-from-the-poisoners-handbook/#.XWI-UutKjIU>

- 1) Go to the website and click "Launch Tales".
- 2) Click on the first episode, "The Fatal Fumes".
- 3) Read the graphic novel and do the experiments.
- 4) Complete the table below.
- 5) When you finish a chapter, click on the blue key (HOME) on the top left, then start the next chapter.

REMEMBER TO COMPLETE ONE ROW BELOW AFTER EACH *EXPERIMENT*, NOT AFTER EACH *CHAPTER*.

Title & Who died?	What is the claim? (The inference made from the observations)	What was tested?	Experimental Design (explain step-by-step procedure for how the evidence was tested)	What is the evidence? (outcome of the experiment or knowledge gained)	What is your reasoning? (Connect the evidence to your claim)
Fatal Fumes The Jacksons	If the Jacksons ate cyanide, then they died of food poisoning.	Stomach	Cut open victims stomach and compare to cyanide stomach and normal stomach	Victim's stomach is not swollen and is the normal color	Cyanide makes the stomach swollen, discolored, and clotted with swampy streaky mucus. Victim's stomach matches the normal one. Victim did not eat the cyanide.
Fatal Fumes The Jacksons	If the exterminator fumigated the basement, then the Jacksons died from cyanide gas.	Lungs	Lung tissue was cut and placed in flask. Acid was used to break down tissue. Sample was heated and then moved to ice bath.	Prussian Blue Test glowed blue after adding acid	Cyanide kills by shutting down body's ability to absorb oxygen. Cyanide bonds to the hemoglobin faster than the oxygen. Victims had blue faces and twisted bodies. Victim suffocated to death due to cyanide gas poisoning.

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The Telltale Corpse Unclaimed bodies	If a dead body absorbs carbon monoxide, then the skin will turn pink.	Unclaimed bodies	Dead bodies were placed in large metal tanks filled with carbon monoxide for 2 days. After removing the bodies, the skin color was examined.	The dead bodies did not absorb carbon monoxide because their skin did not change colors.	Carbon monoxide bonds to the hemoglobin faster than the oxygen. CO turns the blood bright red, and the victim's skin turns pink.
The Telltale Corpse Anna Frederickson	If Anna Frederickson's blood is bright red, then she was dead before her leg was cut off.	Anna's blood	A syringe collected blood from her arm. Sodium Hydroxide (lye) was added to the blood.	The blood was bright red, and it stayed bright red even after adding the lye.	Normally lye will turn regular blood to dark brown, but the victim's blood stayed bright red. This indicated that she died of carbon monoxide poisoning.
The Poison Paint Amelia Maggia	If girls touched the brush to their tongues to paint the watch faces; then radium poisoning was breaking their bones.	Bones	Boil the bones for 3 hours, then scrub them with a brush, wrap bones in X-ray paper and block out light, wait 10 days, remove the bones, and develop the paper	The X-ray paper had tiny white dots where the bones used to be	Radium is a radioactive that competes with calcium in bones. It emits alpha particles that blast holes in the bones.
The Murderous Metal Mother in law	If test tube contains a strong "mirror" effect, then the victim died from arsenic.	Tissue sample	Mash Test - use knife to cut up tissue sample, transfer to a test tube. Add acid and zinc powder, stir, and heat. Connect to flask and add hydrogen gas.	Small "mirror" effect coats inside of test tube.	White arsenic is an odorless, tasteless poison easily hidden in food. It stays in the body and is easy to detect. The mirror effect indicates presence of arsenic, but only a tiny amount.

<p>The Murderous Metal</p> <p>Mother in law</p>	<p>If test tube contains a “mirror” effect or white crystals, then the victim died from arsenic.</p>	<p>Tissue sample</p>	<p>Reinsch’s Test – add potassium chlorate and acid to tissue sample. Allow it to burn, then use ammonia to neutralize the sample. Add acid, then put the copper strip into the sample. After several hours, remove the copper strip and heat with Bunsen Burner.</p>	<p>Dark layer on copper indicates poison. After reheating the copper, the test tube turned a dark sparkly color</p>	<p>Dark color and sparkles indicate presence of lead and bismuth but not arsenic. Cannot prove a murder happened because victim probably took stomach medicine.</p>
<p>The Murderous Metal</p> <p>Anna Applegate</p>	<p>If test tube contains a “mirror” effect or white crystals, then the victim died from arsenic.</p>	<p>Tissue sample</p>	<p>Mash Test - use knife to cut up tissue sample, transfer to a test tube. Add acid and zinc powder, stir, and heat. Connect to flask and add hydrogen gas.</p>	<p>Strong “mirror” effect coats inside of test tube.</p>	<p>Because the mirror effect is strong, it indicates arsenic poisoning.</p>
			<p>Reinsch’s Test – add potassium chlorate and acid to tissue sample. Allow it to burn, then use ammonia to neutralize the sample. Add acid, then put the copper strip into the sample. After several hours, remove the copper strip and heat with Bunsen Burner.</p>	<p>Dark layer on copper indicates poison. After reheating the copper, the test tube contained sparkling white crystals.</p>	<p>The sparkling white crystals indicate arsenic is present in the tissue sample so Mrs. Creighton was guilty.</p>