

**2001 Southern Colorado Regional “Science Crime Busters” Exam      Answer Key**

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1. Alka Seltzer
2. Soap
3. Flour
4. Baking Soda
5. Water
6. Calcium Carbonate
7. Salt
8. Sand
9. Household Ammonia
10. Iron
11. Sugar
12. Hydrogen Peroxide
13. Yeast
14. Aluminum
15. Rubbing Alcohol

For information on how to purchase a packet of additional crime scene scenarios, visit:  
<http://www.otherworlds-edu.com>

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Container 1: Withit  
Container 6: Blind/Withit

Container 10: Cookijar/Blind/Gilltie  
Container: 14: Blind

Container 9: Cookijar/Withit/Gilltie  
Container 15: Gilltie

DNA Evidence: Blind

Fingerprints: Gilltie

Chromatogram: Gilltie/Withit

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**Hand N. Cookijar:** Of the substances found on his person, only household ammonia and iron were discovered at the scene. Ammonia is a common disinfectant and iron may result from the use of scouring pads. If other suspects had not been associated with these same substances, a case may have been constructed around his possible connection to the crime. Since none of the other evidence pointed to his guilt – DNA, fingerprints, chromatograms – he is quite likely innocent of this crime.

**Robyn U. Blind.** The hydrogen peroxide was not found on the scene, but was found on her person later, raising a suspicion that she may have cleansed a wound. This combined with the DNA match raises strong suspicion of her guilt. Calcium carbonate, often used as a lawn fertilizer; iron and aluminum filings produced from sharpening lawn implements; and salt used to melt snow and ice would be an integral part of her work environment. Robyn is the only suspect on whom all the substances, except for the rubbing alcohol, found at the crime scene were also found on her person. Since time had passed between the commission of the crime and the shakedown of the suspects, she may have laid the pen – used in writing the note – somewhere in the school and picked up a different one later ... that one now found on her person. As groundskeeper, she may have worn a pair of gloves that explains why her fingerprints were not found on the bottle.

**A. Way Withit.** One of the foul smelling chemicals used to clean the school bus windows may have been ammonia. She may have used another of the substances found at the scene, Alka Seltzer, to relieve symptoms of heartburn. She may have been exposed to calcium carbonate used to line athletic fields, however she is not the only suspect on whom that substance was found. The hydrogen peroxide and rubbing alcohol found on her person may have been used in treating sore muscles and minor cuts and scratches. The ink from her pen does match the chromatogram, however this may have been a school issued pen, rendering its use common among school employees. Neither her fingerprints nor her DNA match those found at the scene. The evidence found at the scene and collected from her person may readily be considered circumstantial and her guilt, therefore, left to doubt.

**Am I. Gilltie.** Since he and Robyn share the same workspace, similar substances may be associated with both these individuals. Am I. Gilltie may use rubbing alcohol to relieve the irritating pain in his back. Since he is the school custodian, he may have handled the bottle on which his fingerprints were found prior to its turning up at the crime scene. Since the pen used in writing the message may have been school issue and this pen and similar ones readily available to others, that fact does not necessarily lead to his guilt.

Evaluation note: The most logically guilty party is **Robyn U. Blind**. It is quite possible that additional observations and conclusions may be drawn from the overwhelming evidence presented in this case. It is important to remember circumstances and substances are inherent to specific job-related functions.