**Fairy Tale Crimes**

**Little Red Riding Hood: Hairs and Fiber Review**

It’s late Sunday night and Grandma and Little Red Riding Hood (Lil’ Red) are sitting with investigators answering questions about a break-in and assault on Grandma. Lil’ Red had arrived earlier in the evening to chaos. Grandma was fighting off an unknown masked assailant who had her trapped in front of him. Lil’ Red quickly waded into the fray and stabbed the assailant with her small penknife, causing the assailant to shove Grandma to the ground and escape by breaking through the living room window. Investigators had noted a number of fibers and hairs on Grandma, including a partially dyed hair, as well as some small fibers snagged in the broken window panes. When questioned about anything out of the ordinary lately, Grandma admitted that Big Bad Wolfe had been slinking around the forest near her home whenever Lil’ Red was scheduled to visit.

1. How will the hairs and fibers be packaged?
   1. Grandma’s clothing:
   2. Penknife:
   3. Window Pane:
2. What reference samples would the investigators want/need for comparison?
3. What features will forensic hair analysts use to determine if the hair is animal or human? Include the appropriate parts of the hair and what would be different between the two.
4. What features of the fibers will investigators use to determine if the hair is natural or synthetic and what techniques are used to analyze those features?
5. The dyed hair had 1.64 cm of natural hair growth. Assume that the hair was growing at human rates, how long ago was the hair dyed?
6. Examination of the hairs found on Grandma’s shirt show club-shaped hairs. What do the forensic hair analysts know about this hair given the shape?