**Lesson Plan**

**Course:** Forensic Science

**Topic:** Forensic Fiber Analysis

**Lesson Goals:**

1. Introduce the characteristics of a variety of natural and synthetic fibers.

2. Compare and contrast various types of fibers through chemical and physical analysis.

**Students will know and be able to:**

 1. Examine, identify and analyze fiber evidence.

 2. Use physical and chemical properties to identify an unknown fiber.

**Materials:**

Keynote Presentation: procedures used to collect and analyze fiber evidence

Elmo Document Camera

Piece of clothing

Adhesive clear tape

Clean sheet of paper

Candle

Matches

Forceps

Fiber samples

**Instructional Procedures**

 **Opening:**  Keynote presentation to Introduce the procedures used in forensics to collect

 and analyze fiber evidence.

**Engagement:**

 1. A student volunteer will be chosen to use the adhesive tape to lift fibers from a

 piece of clothing. Once the fiber is lifted, the student will place the sample on a clean

 sheet of paper.

 2. The student will then use the elmo to magnify the fibers and the class will be asked to

 identify any observations they make. Those observations can be written on the Elmo next

 to the samples or on the whiteboard.

 3. Next I will use the document camera to demonstrate the procedures used to conduct

 flame tests on each fiber sample. As a class, I will model the specific observations they

 need to make when conducting flame tests of each of the fiber types they will be testing in

 the lab.

 4. Students will then move to the lab tables, collect the lab materials listed in their lab

 instructions, and complete the lab.

**Closure:**

 1. Students will be directed to clean up all materials

 2. They will complete an exit ticket identifying their observations from the class and listing any questions they may have.

**Assessment:** (formative)

1. I will circulate around the room to ensure students are following instructions and completing

 the lab correctly.

2. I will review exit tickets to look for any misconceptions and identify any questions that I amy

 need to answer in the next class.

Educational Philosophy: This lesson supports the constructivist educational philosophy, as well as the spatial / visual intelligence . This lesson includes an experiential, hands-on activity that the students will complete in groups following the document camera actvity.