Forensics For Free or Cheap

Attached are some of the forensic activities that we have come up with over the years to help you save money, try forensics for the first time, or to integrate into your already rich forensics curriculum! Should you have any questions please do not hesitate to contact one of us

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What: Scaling
What you need to buy: Likely nothing is needed that you don’t already have
Procedure: This is a great scaffolding lab or series of labs in order to help students get ready to scale down a life size crime scene. Take several sheets of paper (graph paper is easier for kids but if you want to challenge them a bit more in preparation for the ‘real’ crime scene you could use copy paper), tape the paper to a desk, draw a body outline and then a variety of shapes, they don’t have to be crime related even, just shapes in various sizes in order to help them scale. Then ask students to scale down the drawing to fit on a single sheet of paper.

What: Handwriting Analysis
What you need to buy: Tracing paper
Price Comparison: for a mystery kit $168
Procedure: There are a lot of different activities you can do with handwriting, to introduce the topic have a student come in and secretly write a short message on the board. When the class comes in ask them by show of hands how many students think handwriting can be individual evidence, then ask students to spend some time walking around the room asking for samples of writing in order to discover the ‘suspect’ that wrote the message. Let students know that they can try and disguise their writing but they cannot refuse to give an exemplar. This can take as long as you let it; afterwards I often have my students write a CER as to who the suspect was. The next handwriting lab that I do, I have students look at some sample writing (you can use old student work, find something online or create your own) I ask them to analyze the writing using rules, protractors, and tracing paper. The tracing paper is useful for identifying baseline and letter slant. The next lab has to do with the ability to alter your handwriting. I have my students work with me to come up with a list of different ‘impairments’ or ways they can alter their handwriting, they pick a two sentence phrase and write it each time with a different condition. Some of the alterations that have been used in the past are ‘writing with pen, writing with marker, writing on unlined paper, spin around three times then write, write with your eyes closed, write as fast as you can, write as slow and focused as you can’ After they are done they are asked to compare their samples one by one to the original written under ‘normal conditions’ they can be asked to collect specific data using measurements and tracing paper, as much or little as time allows. Closing this lab with a CER on whether or not writing can truly be individualized fits well.
What: Chromatography
What you need to buy: coffee filters, variety of black markers or pens
Price Comparison: $80 for an ink comparison kit
Procedure: Set up a ransom note situation you need your students help with! Depending on how much set up you want to do cut strips of coffee filter and have students test a variety of markers or ink, using one or more solvents. Then have them compare their results to the results of the ransom note. There are a lot of ways you can alter this lab.

What: Blood Typing
What you need to buy: milk, red food coloring, vinegar
Price Comparison: kit for 8 groups $65.95, refills $36.30; kit for 50 students $115
Procedure: This requires some set up. It is best run in stations, have three suspects, a victim, weapon, and crime scene blood stations. Place a beaker of red colored milk at each, well labeled with whose blood it represents. You then need an anti-a, anti-b, and anti-rh beaker at each station. Assign a unique blood type to each suspect, and the victim. The blood type found on the weapon should match the victim, and the blood found at the scene should match the suspect. If you want your anti serum to clump use vinegar, if not use water. Students should test each blood sample, determine the blood types, and then let you know who the 'killer' was based off this evidence, and if that piece of evidence alone would be enough in court.

What: Blood Spatter
What you need to buy: white paper, red and blue food coloring, corn syrup, cocoa powder, red washable paint
Price Comparison: Into to Blood Spatter analysis kit $115.99 Advanced techniques $125.09 one liter of simulated blood can run $90 (most companies offer them in ‘types’ though which sadly corn syrup cannot offer you!) Bloodstain spatter analysis kit (for 30 students working in pairs) $36.70 for simulated blood, pipets, rulers, and protractors.
Procedure: There are a variety of blood spatter labs you can run with your students. In order to have realistic looking/feeling blood try mixing 1/2 cup water, 1 tablespoon cocoa powder, 3-4 tablespoons of corn syrup, 1/2-1 teaspoon red food coloring, 2 drops of blue or green food coloring. (I suggest you play around with these numbers a bit but this is by far the best recipe for realistic looking/acting blood) You can use this blood for dropping blood on various surfaces for students to see how blood acts when it comes in contact with a porous vs. non porous surface, or for different heights, or different angles. It is not recommended that you use this recipe for creating large blood spatters in order for students to string. In order to create blood spatter patterns for stringing mix washable paint with water.
What: Coding
What you need to buy: nothing
Procedure: There are a variety of different codes you can find online! This works as an amazing mini unit, or as something to add onto your document analysis unit. This is also a good opportunity to do a mini case study on the Zodiac Killer.

What: Fingerprinting
What you need to buy: ink pads, white balloons
Price Comparison: $38 for a kit that includes ink pads and fingerprinting cards; pack of 100 cards $35
Procedure: To introduce this topic have students place a fingerprint on a white balloon, then blow up the balloon and identify the print. It can be a cool visual to have them place the balloons in three distinct areas of your classroom depending on if it is a loop, whorl, or arch. Students should be taught how to identify prints, and be given ample time to practice rolling their prints on plain paper before being given a ‘fingerprint card’ these can be found online, or created on your own as opposed to purchasing.

What: Fingerprint Lifting
What you need to buy: corn starch, clear packing tape, makeup brushes from the dollar store
Price Comparison: $56 for a kit that includes one brush, one 2 oz. jar of powder, one roll of lifting tape, and 100 index cards. $12.25 for one jar of lifting powder, $13 for the magnetic powder, $7 for a brush, $20 for a magnetic brush
Procedure: Have students place a fingerprint on a nonporous surface, then lightly dust the print with corn starch. Carefully place some packing tape over the print, then lift and place on a dark sheet of paper or notecard.

What: Tire Tracks
What you need to buy: ink pads, variety of toy cars (or borrow some from your kids!)
Procedure: create some tire tread patterns, give each student a ‘suspect print’ then have students take samples from all the toy cars in order to find a match.

What: tool marks
What you need to buy: nothing! (possibly clay/play dough)
Procedure: grab several sizes of screwdrivers or other tools from your home, or watch the sales around christmas time and buy one of those multipacks. Oftentimes hardware stores will give you scrap wood or shims for free or cheap. Take a piece of wood and go crazy with your tools! Have students analyze the tool marks using clay or playdough, or just by measuring it and looking at it. If you trust your students you can even let them use the tools to make their own tool marks to compare the ‘crime scene’ sample to.
What: Footprint Casts
What you need to buy: sand, plaster of paris, garbage bags, dollar store aerosol hair spray
Price Comparison: for a kit for 6 lab groups $168
Procedure: Have students bring in shoe boxes. Line a shoe box with a garbage bag, put about an inch and a half of sand in the box. If necessary wet the sand a bit. Have a student step in the sand, spray lightly with hair spray, then carefully pour plaster of paris over the footprint and leave overnight.

What: Evidence Searching
What you need to buy: nothing
Procedure: Students should be taught the various methods of searching a crime scene. Collect a variety of small objects such as binder clips, various colors of pipe cleaners, craft puff balls, etc. Give each group a description of the item they are looking for, do not tell them how many of their items they have to find. Hide all the items in your classroom, or a courtyard, make them difficult to find but not inside drawers etc. Have students look, do not remind them of the search methods. (typically depending on how long you want the activity to last hide between 7-14 items per group)

What: Properties of Glass
What you need to buy: nothing, or various dollar store glasses
Price Comparison: for mystery kit $138
Procedure: CAUTION students will be handling broken shards of glass! You can take a variety of types of glass, and have students analyze their density, or find the beck lines.

What: Fiber Lab
What you need to buy: several types of synthetic and natural fabrics of the same color (often you can find scraps at a fabric store)
Price Comparison: Lab kit $33 includes 6 types of fiber for 30 students working in pairs
Procedure: Cut the fabric in very small pieces, give each student group a sample of each type of fabric, as well as a crime scene piece of fabric. Have students examine and draw the fabric under a microscope as well as perform a flame test on each type of fabric. This should be done after students have been taught different types of fabrics and how they look/behave.