Preparation of Materials

Materials List

Suspect Packets (one for each student) containing:

- General evidence including: police report, medical examiner's report, newspaper article, background, suspect list, evidence collection sheets, and hints for interviewing suspects
- Description of the character
- Suspect's physical evidence: paper DNA sequence, blood sample code number, fingerprint, and footprint

Killer Identity Packet (one per lab section) containing:

- paper DNA sequence and "restriction enzyme" to use
- footprint
- fingerprint
- blood type
- confession

Blood typing kits (Carolina Biological #BA-70-0124 or Wards #36W0019) containing:

- 4 types of artificial or aseptic blood
- Anti-sera to blood types
- Instructions for interpreting coagulation results

Plus:

- Extra typing cards (Carolina Biological #BA-70-0572)
- Extra Stirrers (Carolina Biological #BA-70-0550)

Producing the Evidence

DNA Strips. Included in the handout are 25 different DNA strips. These may be photocopied and used for sections of twenty-five or fewer students. We have included the code for generating the DNA strips in case you need to generate more than twenty-five sequences. This code generates random sequences; no two will be alike. The code is written in PERL and can be run on any computer that has PERL installed on it.

Footprints. We collected 25 different shoes from various people in the building and photocopied their soles to generate the number of "prints" needed. You may make your

own footprints this way, or download graphics files of scanned footprints from the ABLE website.

Fingerprints. We took index finger prints from 25 different people. These prints were then photocopied for use in the packets. "Official" print cards like the police use will be scanned and available for download.

Blood Type. One kit provides four different blood types and is adequate for 1-4 sections. For 20 lab sections of 24 students each, we used a total of six kits. This allowed us to assign a different vial of blood and a unique blood sample code to each of the 24 suspects (some suspects have the same blood type). This quantity of blood was sufficient for a total of 480 students. If you have fewer vials of blood than suspects, use more than one code number for each vial so that there is one code number for each suspect.

Write the blood sample code (1–24) on each suspect's packet and on the sample vial. When blood evidence is subpoenaed the instructor supplies the appropriate blood sample for testing.

Keep the blood samples refrigerated.

Assembling Packets

Killer Identity Packet

Assemble the killer identity packet first since suspect packets will be based on it.

Choose one of the suspects who has a strong motive as the killer. Put his or her confession in the envelope. Add the physical evidence that was found at the crime scene: DNA sequence (and corresponding restriction enzyme), blood type, footprint, and fingerprint. To add intrigue, include a second fingerprint that was not the killer's but was found on the murder weapon. This physical evidence is chosen at random from the evidence you have already prepared.

Seal the envelope.

If you have multiple sections, create a different killer packet for each section. This prevents early classes from spoiling the fun for later classes.

Suspect Packets

Twelve suspects are essential to the game because of their roles in the plot. They are designated as core suspects in the descriptions on the website. When preparing the packets, encode the envelopes to indicate to the instructor which packets must be assigned to players. If there are fewer than 12 students in a lab section, the instructor should tell the story of the core characters that were omitted.

Since you have already assembled the Killer Packet you know who did it. Assemble that suspect's packet first, matching the DNA sequence, fingerprint, and footprint with the ones placed in the Killer Identity Packet. Add a blood sample code that points to a blood sample of the correct type to the front of the packet.

Assemble the remaining packets using a random distribution of the remaining shoe prints, DNA sequences, fingerprints and blood types. The only rules are to make sure that:

- multiple suspects have the same blood type as the killer
- multiple suspects have the same footprint as the killer
- no two fingerprints are alike
- the "extra" fingerprint in the killer packet belongs to one of the suspects (not the killer)
- the twins have matching DNA sequences, but everyone else has a different sequence (identical twins have the same DNA sequence but different fingerprints).

The general evidence (same for everyone) and the suspect character description (unique to each suspect) also goes in each packet.

A separate set of suspect packets is needed for each lab section.