***Mixtures and Separations***

Local detectives need your help solving a mystery. The crime lab is backed up and won’t be able to process the evidence in time to get a conviction. A man was found murdered in his home. A note was left at the crime scene written in black ink and his wife said a bottle of vodka was missing, which contained 20% alcohol by weight. The homes of 3 suspects have been searched. Each home contained one black ink pen and one bottle of vodka. All items were different brands and the bottles were missing their contents labels. The detectives need you to identify the killer based on the ink and alcohol samples and provide them with a report that can be used in court.

In groups, discuss the following:

* List the facts of the case.
* What do you need to know in order to solve the case?
* How will you identify the pen and the vodka? What experimental procedure will you use?

Use the resource “Mixtures and Separations” on Managebac. Divide the sections of text among your group members and share your learning with the group to help determine how you will solve this problem.

**Two products** must be submitted. 1) individual lab reports for the experiment you performed; and 2) a team report identifying the suspect that the detectives should arrest and the supporting evidence. Submit these on Managebac **no later than 27 September**.