

Name _____ Period _____ Date _____



Automated Urinalysis

eClinic

Lesson 1: Learning the Functional Components of an Automated Urinalysis Instrument

Each component of an automated urinalysis instrument functions to move samples to a reading station; pick up the right volume of mixed sample; direct the volume toward internal components for doing physical, chemical and microscopic urinalysis; utilize a memory bank of formed element images to categorize the visible elements present in the sample; and present a collage of those separate images to the user for final identification. For this exercise, the challenge is to recognize, on a generalized urinalysis model you may never have seen or used before, where the basic components are located.

Doing the Science

1. Open the Automated Urinalysis simulation.
2. Select the various parts of the device on the screen to learn about their function.
3. Create a sketch of the device in the space below.
4. Label the following parts on your sketch: (a) microscopy unit, (b) physical and chemistry unit, (c) barcode reader and sampling station, (d) rack track, (e) instrument tube rack, and (f) bridge.

Instrument sketch

Do You Understand?

1. Where should the instrument tube rack be placed when starting a run?
2. How does the instrument “remember” which sample is being analyzed?
3. Calibrators, controls, and samples are placed in different racks. How does the instrument identify what kind of samples are present in a given rack?