Virtual microscope transcript

This short video will show you how to use the virtual microscope. The micrographs you will see were collected using the light microscope shown here. It is similar to those you may have already used in your school laboratory. However, the eyepiece has been replaced with a high-resolution camera, and the microscope stage is controlled by a computer.

The computer moves the stage in a precise pattern, allowing the camera to capture a series of high-resolution images that are then used to create a microscope slide image. The virtual microscope has all the features you would expect to find on a standard microscope, including objective lenses of varying magnification, both coarse and fine focus controls, and a light source.

The virtual microscope is easy to use. Slides are loaded into the microscope by simply clicking the image tile of the slide you wish to view from the slide set, located on the right-hand side of the screen. For example, let's look at some cheek cells. Once the image is loaded, use the coarse and fine focus controls to bring it into sharp focus. And if necessary, adjust the lighting to improve the image quality.

You can then view this light at a higher magnification by selecting an objective lens of the higher power: times 10, times 20, and times 40. The microscope stage can be controlled in a number of ways – by using the arrow controls, clicking the slide stage and dragging it, or by clicking on the magnified image in the viewer to reposition it.

Each slide comes with a short description. By clicking on a highlighted item, the microscope will automatically reposition the stage so that the highlighted item is in the centre of the viewing screen. You can also make measurements using a grid or graticule. The graticule can be reoriented using the left and right turn controls.

The grid and graticule can also be calibrated so that you can make accurate measurements. This is done by selecting the calibration micrometre slide, located in the slide set. When calibrating the graticule or grid, make sure you select the same magnification that corresponds with the magnification of the slide you wish to make measurements from. You are now ready to use the virtual microscope.