

Lesson Two: How to Use the SEM (7 minutes)

1. Now that you have prepared your sap beetle specimen for the SEM you need to learn how the SEM works.
2. If you have just finished watching the video for “How to prepare a specimen for the SEM”, click on the X at the top right hand corner of the screen. This will take you back to the screen with the four boxes in the center.
3. Click on the upper left-hand corner box that is labeled: “Learn how the SEM works”.
1. Click the arrow to play the video.
4. Answer the questions as you are watching the video. You may press “pause” button to stop the tape in order to answer the questions and then press the “play” arrow to continue.

Questions:

1. Why do you want to avoid having air molecules inside the specimen chamber?

2. Where are the primary electrons coming from in the SEM? _____

3. Where are the secondary electrons coming from in the SEM? _____

4. How does the SEM convert the electron beam pattern into a picture on the computer screen? _____

5. Explain how magnification of the compound light microscope and the SEM are different. _____

Now that you know how the SEM works and how to prepare your specimen it is time to look at the specimen and record data.