



Platelets

STEM Sims

Lesson 1: Counting Platelets

When you view a smear of a blood sample through a microscope, you can see red blood cells, or erythrocytes, and platelets, also called thrombocytes. To get a platelet count, instead of counting every single platelet, it is common practice to view multiple fields on the slide, count the number of platelets in each field, and then find the average. Are you ready to do some blood work?

Doing the Science

1. Start the Platelets Simulation by clicking on the “Sim” tab.
2. Once you have finished viewing the reference screen, click on the “Smear” button.
3. Record your Smear ID number in Table 1.

Note: Only a portion of the entire slide is currently displayed in the viewing area. You will need to click and drag the slide the around the viewing field to observe all parts of the slide. You can also use the magnification buttons to zoom in or out.

4. Click the Count “+” button for every platelet you see in Field 1. If you need to reduce your count, simply press the “-” button.
5. Advance to the next field by clicking the right arrow button next to “Field”.
6. Repeat Steps 3-4 until you reach Field 10. Record your Platelet Count in Column 2 of Table 1.
7. After you’ve made your final count, divide total number of platelets you’ve counted by 10 to find the average number of platelets per field.
8. Once you have your answer, click the “Check Answer” button. It will give you instructions to multiply your average by 20,000. Record this estimated count in Column 3 of Table 1. Then click the “Enter” button.
9. Repeat the Counting process until you have completed a total of 5 trials.

Table 1.

Trial	Smear ID Number	Platelet Count	Estimated Count for the Concentration of Platelets
1			
2			
3			
4			
5			

Do You Understand?

1. Why do you need to count the platelets in ten different fields, that is, why not just count one field?