

## PCR Animation

1. Open the [PCR interactive](#) and click on the word, "Amplification."
2. Read the slide, notice the temperature range, and then click, "Denature DNA."
3. The term, "region of interest" flashed up quickly before the DNA splits apart. If you didn't notice, click the, "repeat previous step" button.
4. What is meant by the term, "region of interest" and how would a researcher choose such a region?

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5. Read the next slide carefully, notice the temperature range, and then click, "Anneal Primers."
6. In your own words, what are primers? (If you're not sure, read the slide!)

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7. Read the next slide carefully, notice the temperature range, and then click, "Extend Primers."
8. PCR cycle one is now complete.
9. How many double stranded DNA pieces are there? How many of them are JUST copies of the region of interest? Put your answers in the table below.
10. Go through the second cycle and complete the table accordingly.
11. Go through the third cycle and complete the table accordingly.
12. Click forward to the slides that show the 4<sup>th</sup> and 5<sup>th</sup> cycle completions and complete the table.
13. Click the "View Graph" button and watch the graph change as you click the "Next Cycle" button ten times.
14. Enter values in the table for the 25<sup>th</sup> cycle.
15. How many cycles will it take to get 1 billion copies of the region of interest? \_\_\_\_\_

Cycle Number	Total Number of Double-Stranded DNA Fragments	Number of Double-Stranded "region of interest" DNA Fragments
1		
2		
3		
4		
5		
25		

