

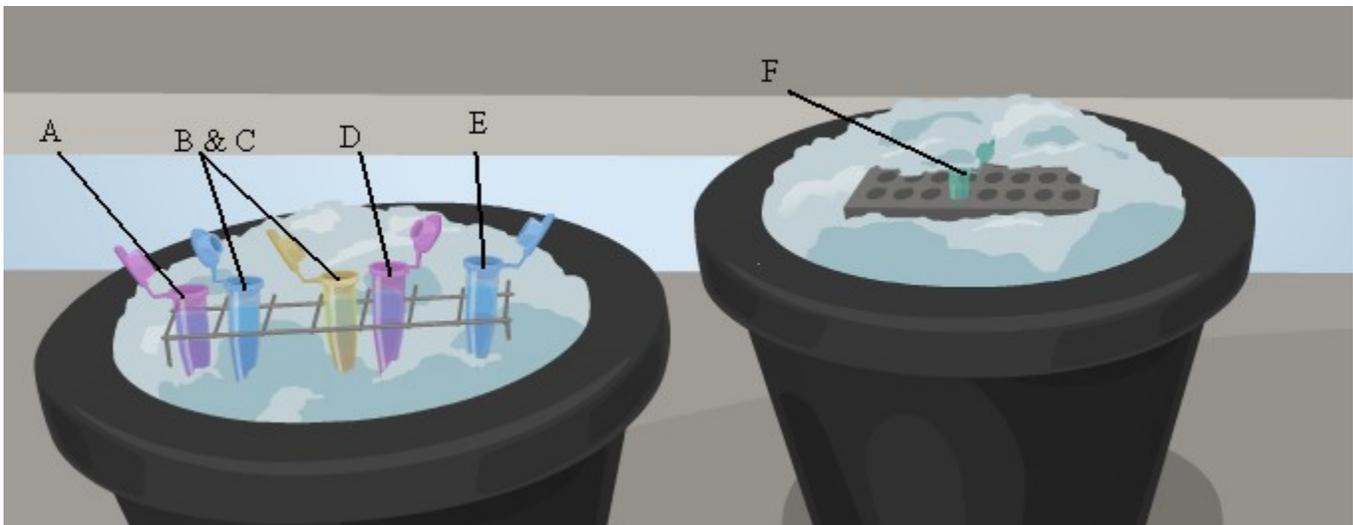
Objective: In this virtual lab, you will identify the resources and process of Polymerase Chain Reaction or PCR.

Introduction:

1. How many base pairs are there in the human genome? _____
2. What is PCR? What does it do?
3. What are some of the advantages of PCR? Name 1 and explain.
4. What is unique about the design of PCR tubes?

At Lab Bench making the Mix:

Note: Remember to click and hold the mouse to use the pipette.



5. Label the following on your bench. Your **PCR tube** (F) has already been done for you.

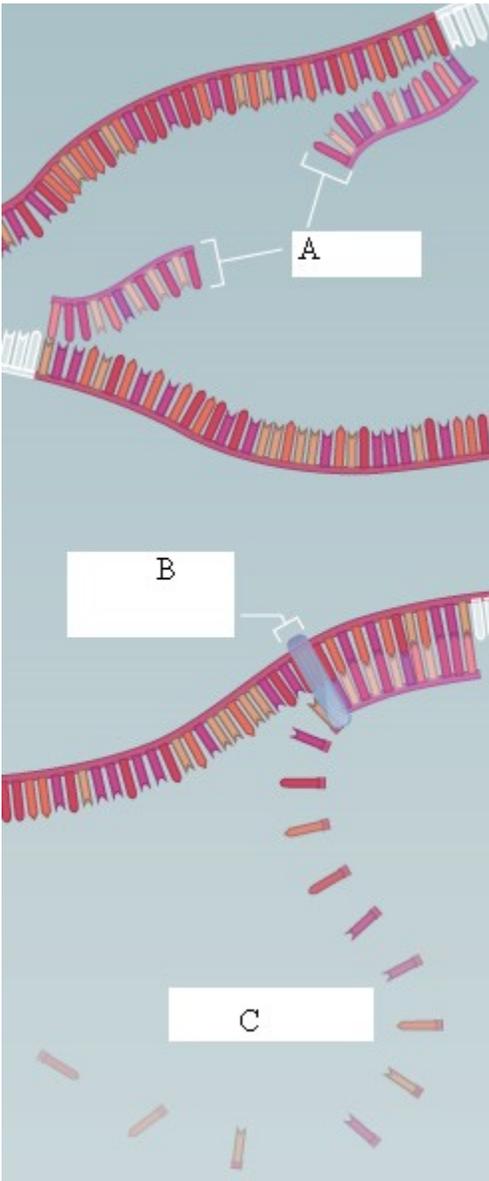
A _____

D _____

B & C _____

E _____

6. What is the first thing you need to add to your PCR tube? (Label A):
7. What is the function of a “primer?”
8. What does DNA Polymerase do?



Inside of the Thermal cycler:

9. In Cycle 1 at 95 Degrees Celsius, what happens to the DNA?

10. In Cycle 1 at 50 Degrees Celsius, what anneals (attaches) to the DNA strands?

11. In Cycle 1 at 72 Degrees Celsius, what is activated and what is added to the DNA strands?

12. What are the end products of Cycles 2 and Cycles 3?

13. Label the processes of DNA replication shown to the left.

- A _____
- B _____
- C _____

Analysis and Conclusions

14. Why do you think that everything on your lab bench had to be in ice?

15. Why did the pipette change tips every time? What is this important?