

PCR QUESTIONS

Name: _____

1. What does PCR stand for?
2. Who is generally credited for inventing the process of PCR?
3. What company was this person working for?
4. According to its creator, the reaction is easy to execute. What does he say it requires?
5. Why were early procedures for DNA replication very inefficient and time consuming?
6. What was discovered in 1976 that changed this, and where did it come from?
7. Describe the 4 main components in a PCR reaction tube:

DNA Template:	
DNA Polymerase (Taq Polymerase)	
Primers	
Nucleotides – dNTPs or deoxynucleotide triphosphates	

8. In the space below, describe the three steps in a single PCR cycle. Include typical temperature, time and what is taking place:

Denaturation:	
Annealing:	
Extension:	

9. List five applications for the process of PCR:

10. Why is PCR often critical in forensics?

11. List three ways PCR techniques have been applied to human DNA:

12. Why does PCR permit early diagnosis of malignant diseases?

13. How is PCR used to detect viral infection?

14. Explain how PCR differs from DNA replication (take 2).