**Review Worksheet: Intro to Biotechnology / PCR**

**Name: ……………………………………………………………..**

*Do these questions, using your learning resources. Look at the “marks” to give you an idea of the level of detail required in the response (formative only – does not count towards your grade). At the end, mark your work, correct it, and fill in the reflection section. Questions marked \* require you to use reasoning, inferring and application of knowledge, or perhaps extra research to get the answer. It won’t be right there in the text.*

1: What is biotechnology?

(1 mark)

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2: Give three examples of modern biotechnological techniques.

(3 marks)

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3: What is the Human Genome Project, and what are some potential benefits?

(4 marks)

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4: What is the overall purpose of Polymerase Chain Reaction (PCR)?

(2 marks)

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5: What are the main ingredients in the PCR process and what does each do?

(4 marks)

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6: Describe in detail the steps in the PCR process.

(10 marks)

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7: Why can’t human DNA polymerase be used in the PCR process?

(3 marks)

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8: What is the origin of *Taq* polymerase and why can it be used successfully in PCR?

(3 marks)

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9: What do you think the water temperature would be near the geothermal vents where *Thermus aquaticus* lives? Explain your answer.\*

(3 marks)

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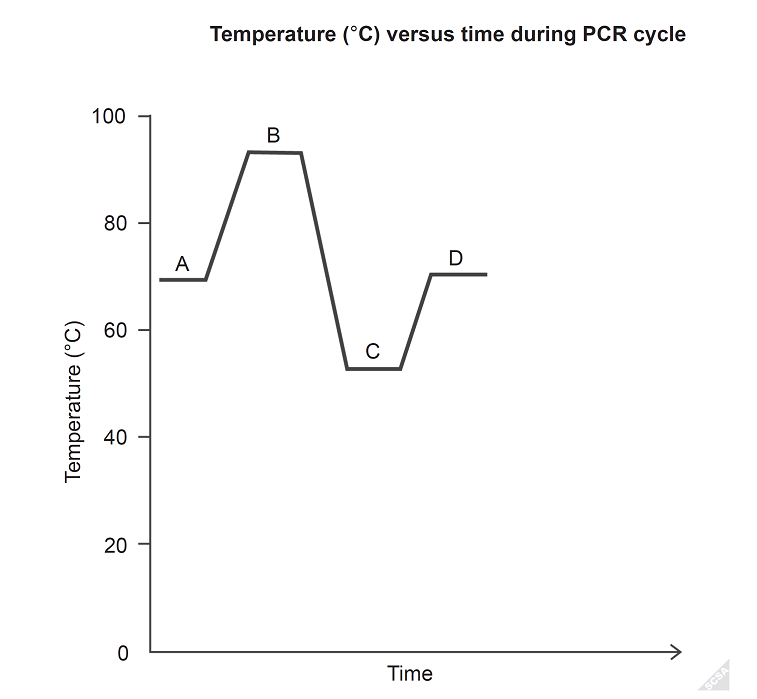
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10: Which part of the PCR process is indicated by each letter on the diagram shown?

(4 marks)



A: ……………………………………………

B: ……………………………………………

C: ……………………………………………

D: ……………………………………………

11: List applications of PCR.

(4 marks)

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12: List the principles of evolution by natural selection.

(6 marks)

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Go back and mark your work using the marking key provided. What score did you get? /47

*I included enough detail in my answers.*



*I was able to find information in the text/powerpoint presentation.*

*I was able to reason and infer where the information wasn’t directly in the text (questions with \*).*

*I marked my work and wrote down any answers where I missed marks.*