

BIOTECHNOLOGY REVIEW SHEET

A. Micropipets

- What is the largest volume this micropipet should be used to measure? _____ smallest volume? _____
- 1 L = _____ milliliters = _____ microliters
- Write in the symbols: milliliter _____ microliter _____
- Which micropipette (p1000, p200, p20) should you use to measure:
 - 3.5 uL _____
 - 330 uL _____
 - 25 uL _____
 - 190 uL _____

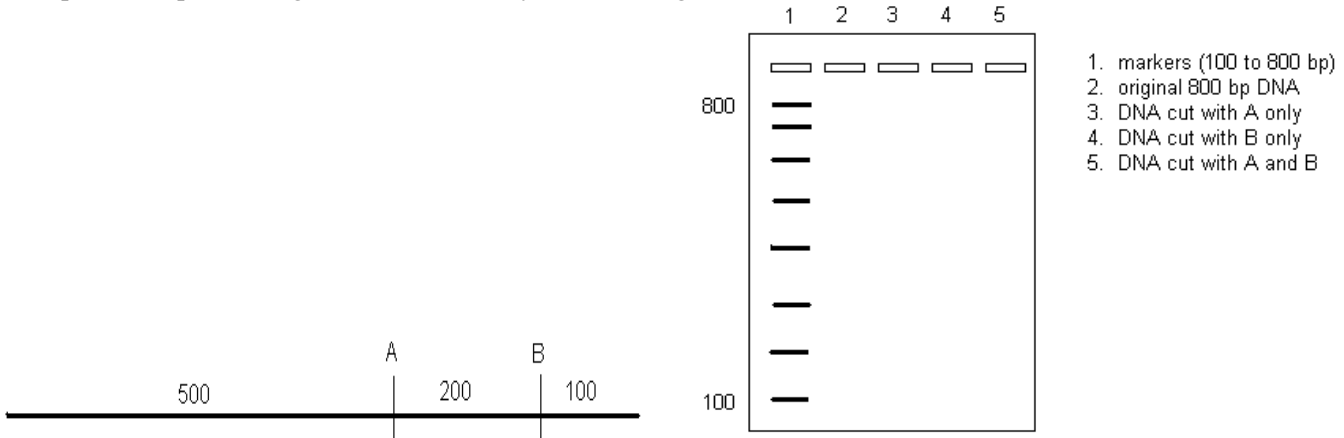


5. Show what you would see in the micropipette window for each volume.

B. Matching:

- | | | |
|--|---|--|
| <ol style="list-style-type: none"> enzyme used in PCR _____ machine used in PCR _____ this kind of molecule migrates to the positively charged end of a gel _____ this kind of molecule migrates faster in gel electrophoresis _____ this kind of molecule migrates to the negatively charged end of a gel _____ enzyme that recognizes a specific short sequence of DNA and cuts it there _____ a small, circular piece of DNA found in bacterial cells _____ DNA that has been made from 2 or more living organisms _____ genetic engineering technique that can make billions of DNA molecules from just a few _____ | <ol style="list-style-type: none"> copies of DNA _____ genetic engineering technique used to identify an individual in crime or paternity cases _____ genetic engineering technique that separates molecules by size and charge _____ genetic engineering technique that makes bacteria take up a recombinant DNA plasmid _____ a sugar that can be used to turn a gene (like green fluorescent protein) off and on _____ a chemical that is used in bacterial transformation to kill bacteria that do not have the recombinant DNA plasmid _____ organisms that have the exact same DNA _____ | <ol style="list-style-type: none"> bacterial transformation plasmid small molecule DNA polymerase from <i>Thermus aquaticus</i> recombinant DNA gel electrophoresis restriction enzyme PCR DNA fingerprinting clones antibiotic, like ampicillin arabinose (ARA) negatively (-) charged molecule positively (+) charged molecule thermocycler |
|--|---|--|

C. A piece of DNA 800 bp (base pairs) long is cut by restriction enzymes A and B. Lane 1 shows marker bands from 100 bp to 800 bp. On the gel, draw what will you see after gel electrophoresis of the DNA.



- D. PCR of person with Alu-92 from both parents: _____
 PCR of person with no Alu-92 from either parents: _____
 PCR of person with Alu-92 from just one parent: _____

