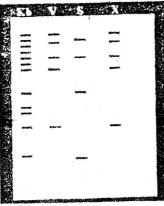
To determine the paternity of the child the attached DNA was combined with the restriction enzyme ECOR I. This restriction enzyme recognizes and cuts the sequence: GAT/ATC. Cut the DNA into the appropriate fragments and place them on your gel electrophoresis model. Use the model to answer the conclusion questions.

- Who is the father of the child? Explain how your group came to this conclusion.
- 1. What size DNA fragment does the child have in common with her mother?
- 2. What size DNA fragment does the child have in common with her father? 3.
- 4. If we did not have a sample of John's DNA could you be certain that Bob is not the father? Explain your answer.
- Creating DNA fingerprints with gel electrophoresis is also used to solve crimes. Below is a picture of a DNA fingerprint that could be used to solve a crime. If a skin cells were found on a victim at the crime scene (V) and skin samples were taken from two suspects (X and S), who committed the crime?



Paternity DNA Samples

MOTHER - ATGATATCCCGTCAATIGATATC

CHILD - ATCAACATATCCCGTCAATTGAT

BOB - GCCTTACAAGAACGGATATCCCA

JOHN - GATATCAAGATATCAGATATCCC

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Explain your answer.

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