

ANALYSIS OF RFLP DATA TEACHER GUIDE

After students have digested their “ivory” DNA and performed their gel electrophoresis they will need to analyze both their data and the data from Dr. Comstock’s lab. The gels will need to be stained and de-stained at the beginning of, or prior to, this activity. Students can do this during class, or you may choose to do this outside of class.

ANALYSIS OF RFLP DATA FROM ALL SOURCES OF DNA. Presented here are two different options:

Option 1 – Calculation of RFLP lengths using banding patterns and size approximation. This involves estimating band or fragment sizes and is recommended for those whose classroom time is more limited or whose students are not as familiar with graphing.

Option 2 – Calculation of RFLP lengths using semi-log plot. This is recommended for students with strong math skills and tends to be slightly more time consuming.

You will need to choose the appropriate option for your students prior to beginning the analysis. For either option you choose, you will need to do the following:

1. Handout necessary materials for analysis. (Note: both options require a picture of the Comstock gel data and a Data Submission Form DS 571)
2. Introduce the photograph of a gel from Dr. Comstock’s lab, pointing out parks from which samples came, presence and reason for two ladders, and base-pair lengths for ladder bands.
3. Have students follow directions for generating base-pair length data from Dr. Comstock’s data using either option and record the base pair lengths on data submission form DS 571.
4. Review follow-up questions on Comstock RFLP data with students. *NOTE: These questions might best be left for homework, depending on time constraints.*
5. Have students obtain information on the country and vegetation regime (the former from a handout, the latter from an overhead transparency) for each park sample and record in the upper portion of the Data Submission Sheet.
6. Review follow-up questions on Comstock RFLP data with students. *NOTE: These questions might best be left for homework, depending on time constraints.*

