Sample Calculation of DNA Fragment Size using Hypothetical (Fictitious) Data
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Table 1. Distance traveled by Standard DNA fragments and PCR amplified DNA fragment in the agarose gel.

Standard DNA Fragment No.	Size of DNA Fragment (base pairs)	Distance traveled in Gel (cm)
1	570	7.67
2	725	7.43
3	2027	5.88
4	2322	5.67
5	3000	5.29
6	4361	4.75
7	6557	4.57
8	9416	4.2
9	23130	2.85
PCR Amplified DNA fragment		5.64

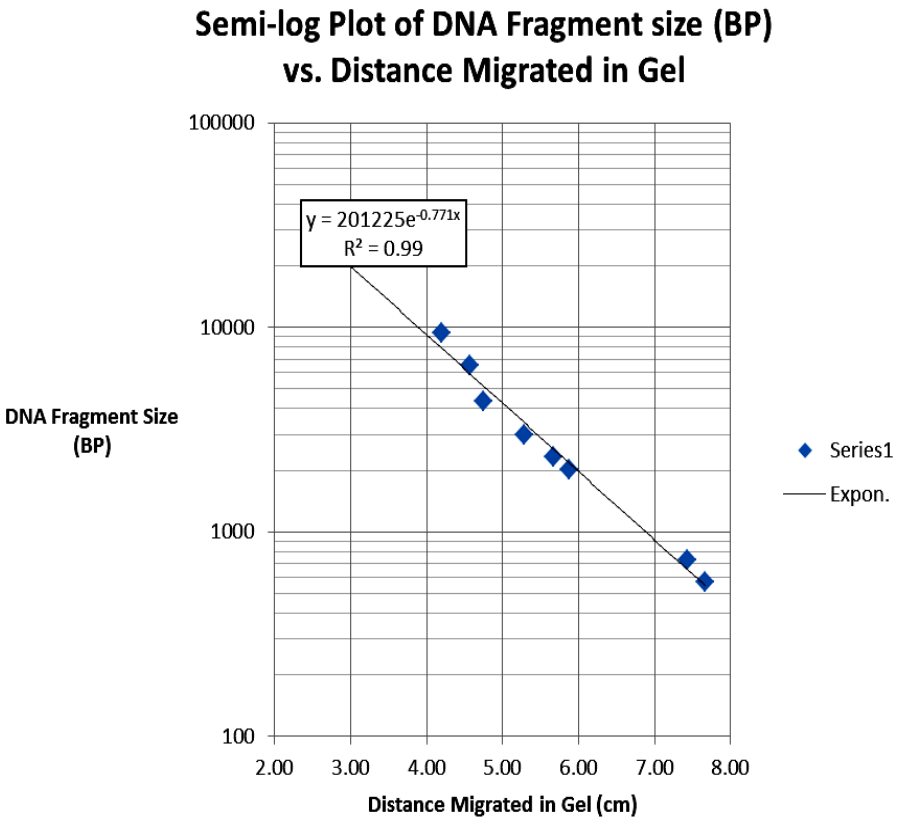

Figure 1. The equation of the semi-log plot above is used to determine the size of the PCR amplified DNA fragment

Calculation of PCR Amplified DNA Fragment Size

- An ***exponential fit*** was used for the trendline as it gave the best R^2 value.

Equation of Line: **$y = 201225e^{-0.771x}$** (precise to 3 significant figures)

Where: y = size of DNA fragment (base pairs)
x = distance migrated by PCR fragment

x = Distance migrated by PCR Fragment = 5.64 cm

Substitution of **5.64 cm** into the equation of the line yields...

Size of pcr fragment (base Pairs) = $y = 201225e^{-(0.771)(5.64)}$

Size of pcr fragment = 2601.23 = 2600 base pairs = 2.60 x10^3 BP (to 3 significant figures)