Knowledge Rich Curriculum Plan

A level maths/ statistics/ Regression, correlation hypothesis testing.

Lesson/Learning Sequence	Intended Knowledge: *Students will know that…*	Tiered Vocabulary	Prior Knowledge: *In order to know this students, need to already know that…*	Assessment
To learn how to use exponential models	*Students will know that data can modelled by an exponential relationship, you need to code the data.* *Students will know that if $y=ax^n$ then $\log y=\log a + n\log x$* *Students will know how that if $y=kb^x$ for constants k and b then $\log y = \log k + \log b$*		Students will need to know laws of logarithms. Students will need to know how to plot data Students will need to know how to extrapolate and interpolate;	
To learn how to measure correlation	*Students will know that the product moment correlation describes the linear correlation between two variables. It can take values between -1 and 1* *Students will be able to interpret the product moment correlation.*		Students will need to have knowledge of the large data set. Students will need to know how to use regression lines. *Students will need to know how to code data.*	
To learn how to hypothesis test for zero correlation	*Students will know how to use a one-tailed hypothesis test.* *Students will know how to use a two-tailed hypothesis test.* *Students will know how to use the product moment coefficient table.* *Students will know how to find significance level.*		Students will need to have year one knowledge on hypothesis testing	

| Students will know how to use the trapezium rule to approximate integration. | • Students will know that if you cannot integrate a function algebraically, you can use a numerical method to approximate the area beneath a curve.
• Students will know that to approximate the area given by $\int_a^b y\,dx$ you can divide the area into n equal strips. Each strip will be of width h where $h = \frac{b-a}{n}$
• Students will know that $\int_a^b y\,dx \approx \frac{1}{2}h(y_0 + 2(y_1 + y_2 \ldots + y_{n-1}) + y_n)$ where $h = \frac{b-a}{n}$ and $y_i = f(a + ih)$
• Students will know if there answer is an overestimate (convex) or underestimate. | | Students will need to know the area of a trapezium.
Students will need to know how to substitute into a formula
Students will need to know how to use radians. | |