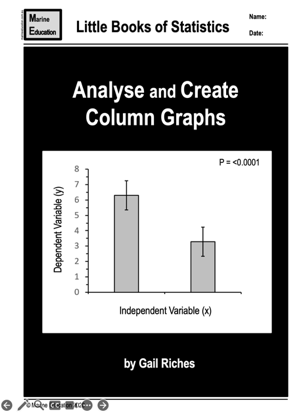
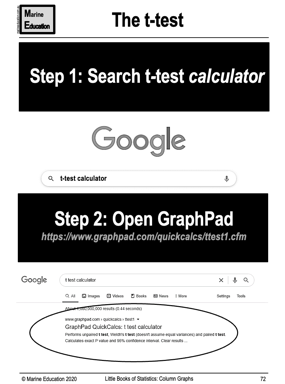
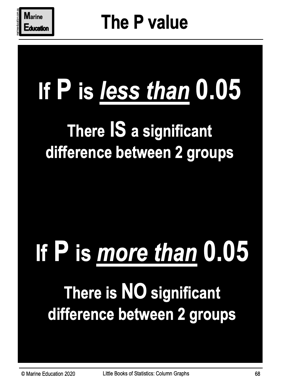
**3. Data Analysis Scaffolding Sheet – Statistics to Answer your Research Question**

If you choose Option 1…. ***Is there a significant difference in [dependent variable] between [this] and [that]?***

Use this *little book of statistics* to give you an idea of how to answer your research question using a t-test and a P value.

1. Google ‘t-test calculator’. Open GraphPad. Enter data. Click ‘Calculate Now’.
2. Find the P-value. If the P value is less than 0.05 there IS a significant difference between the two groups.

  A screenshot of a computer

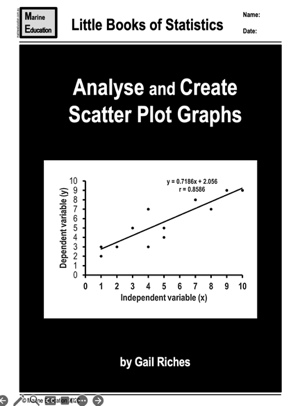
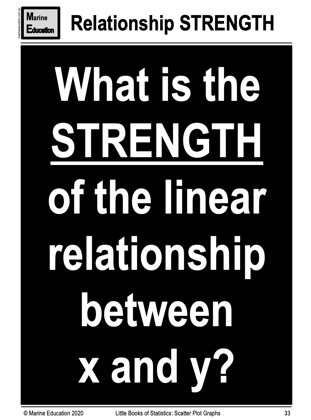
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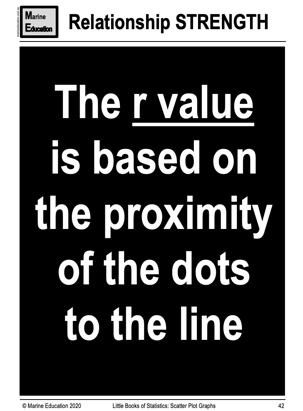
If you choose Option 2…. ***Is there a linear relationship between [dependent variable] and [independent variable]?***

Use this *little book of statistics* to give you an idea of how to answer your research question using an r or R2 value.

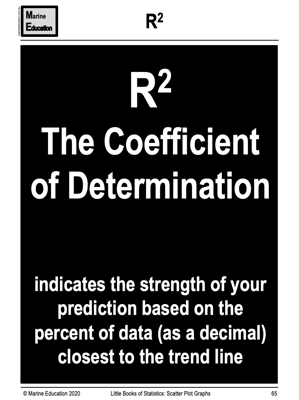
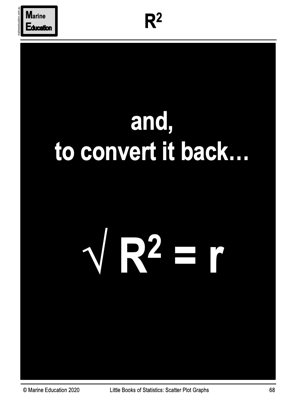
1. The r (or R2) value tells you *if* a relationship exists (answers your RQ) as well as the *strength* of the relationship (if it exists). The r value is based on the proximity of the dots to the trendline.
2. When r is close to 1 (or -1) the dots are ON the line (the relationship is strong). When r is close to zero, there is NO relationship.
3. The r value multiplied by itself is R2. And, the square root of R2 is r. Thus, they can be used interchangeably.
4. R2 indicates the strength of your prediction based on the percent of data (as a decimal) closest to the trend line.

  A black and white sign with a graph and a line

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