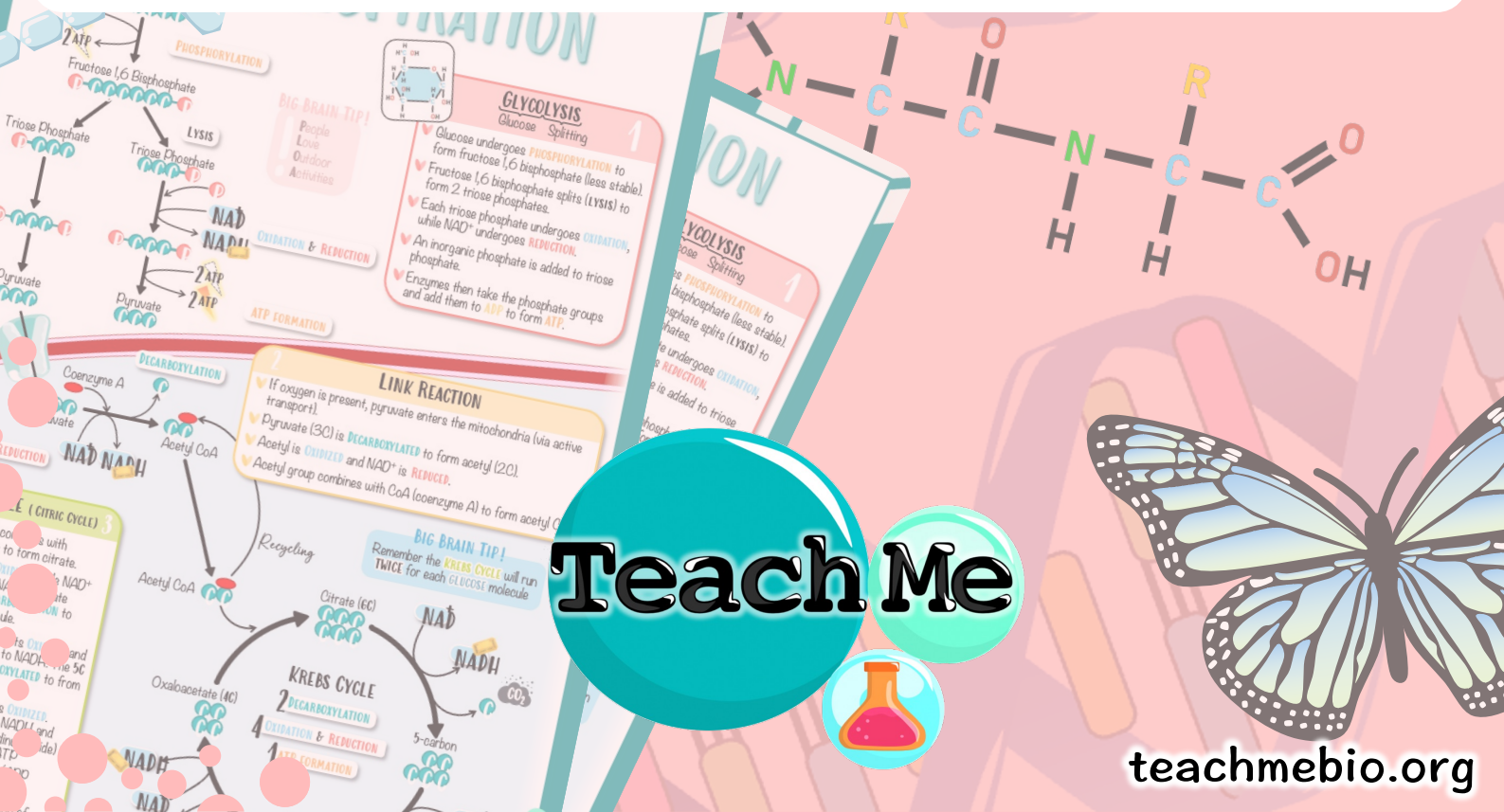


TeachMe

STUDY NOTES

CHAPTER 16 - INHERITANCE CHI-SQUARED TEST



CHI-SQUARED TEST

CHI SQUARED TEST (Test of association / Test of independence)

[A test used to measure how **EXPECTATIONS** compare to actual **OBSERVED** data]

This concept will be explained using an example:

Example – Identifying whether two genes are linked.

Step 1 I want to investigate whether or not the genes for seed color and seed shape are linked. I cross two heterozygous round and yellow parent peas and record the phenotype observed in the offspring; For this I first need to set up my hypotheses:

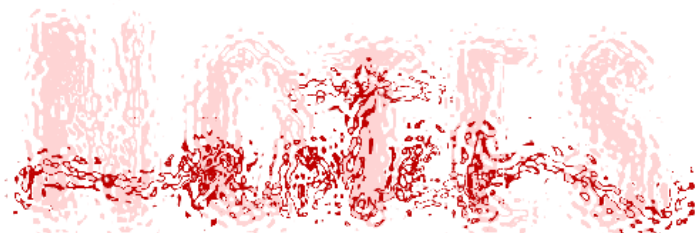
$RrYy \times RrYy$


Null Hypothesis (H_0) – There is no significant deviation from the expected 9:3:3:1 phenotypic ratio in the offspring of the $RrYy \times RrYy$ cross. The traits assort independently according to Mendelian genetics.

Alternative Hypothesis (H_1) – There is a significant deviation from the expected 9:3:3:1 phenotypic ratio, suggesting that the traits do not assort independently or that other factors (e.g., genetic linkage, sampling error) are influencing the results.



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A graphic of a yellow padlock with a blue keyhole, attached to a yellow chain. The chain is draped across the top of the page, with the padlock centered. The background is white with faint, repeating text patterns in a light blue color.

