

SCENARIO ASSESSMENT 1

Students tested three different temperatures of water to determine if temperature had an effect on the development and hatching of zebrafish embryos from their chorions. Three separate groups of zebrafish embryos were allowed to develop for three days. Each group consisted of 100 embryos and was placed in a constant temperature for the three-day development. The students recorded the number of hatched larvae on Day 3. The students had a null hypothesis: **Different temperatures will not affect the hatching of zebrafish embryos.**

Temperature	Number of Embryos Hatched
50 °	45
65 °	62
90 °	98

What conclusion(s) can best be drawn from the data?

What variables could be changed to improve (or better support) the conclusion of this experiment?

SCENARIO ASSESSMENT 2

(MAY ALSO BE DONE ON JOURNAL PAGE 16)

Students created a simulated shoreline in their mating tanks by tipping half of their tanks at a 25 ° incline, allowing the water level to go from about three inches deep to zero inches deep in the same tank. The students had a null hypothesis: **Tilting the mating tanks to produce a simulated shoreline in each tank will have no effect on the number of eggs laid.**

Results:

30 out of 50 untilted tanks produced eggs. The producing tanks had an average of 62 eggs per tank.

28 out of 50 tilted tanks produced eggs. The producing tanks had an average of 112 eggs per tank.

What conclusion(s) can be drawn from the data?

What variables could be changed to improve (or better support) the conclusion of this experiment?
